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ABSTRACT

This document includes four papers presented at a symposium, based on a synthesis of five years of research--on the interaction of role groups and factors in the change process that are critical for school improvement in elementary and secondary schools. The papers identify elements of the change process crucial for the success of proposed changes and offer specific recommendations for enhancing the interactions and contributions of key role groups (principals, assistant principals, central office personnel, department heads, and teachers) to school improvement. The papers are based on two major research efforts (the Principal-Teacher Interaction Study and the High School Study) that have identified the roles of various constituent groups in the change process and the kinds of change occurring. The papers included are "The Facilitation of Change in Elementary and Secondary Schools--Similarities, Differences, and Interactions about the Process" (Suzanne M. Stiegelbauer, Deborah B. Muscella, and William L. Rutherford); "Teachers' Contributions to School Improvement: Reflections on Fifteen Years of Research" (William L. Rutherford); "Institutionalization of Innovations: Knowing When You Have It and When You Don't" (Shirley M. Hord and Gene E. Hall); and "Selecting and Training Educational Leaders to Be Facilitators of School Improvement" (Sheila C. Murphy, Leslie Huling-Austin, and Suzanne M. Stiegelbauer). Discussant remarks follow the papers. (IW)

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SCHOOL IMPROVEMENT:

MESSAGES FROM FIVE YEARS OF RESEARCH

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Gene E. Hall
Leslie L. Huling-Austin
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Discussants

Betty Ward
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Report No. 3222

Papers presented at the American Educational Research Association

April, 1986

San Francisco, California

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INTRODUCTION

This symposium, based on a synthesis of five years of research, reports the interaction of role groups and factors in the change process which are critical for school improvement in elementary and secondary schools. Included in the papers are specific recommendations for enhancing the contribution of key role groups to school improvement.

Research in elementary and secondary schools has identified role groups, such as principals and assistant principals who participate, in an influential way, in school improvement. Other roles thought to play significant parts, such as Central Office personnel and department heads, have been found to be so diverse that consistent contributions are difficult to document (Hall, Hord & Putnam, 1985; Hord & Murphy, 1985). Yet, these and others such as teachers were found to have the potential to make important contributions to school change efforts. Elements of the change process crucial for the implementation success (Huling, Hall, Hord & Rutherford, 1983) of proposed changes have also been examined. The interactions among critical groups in the process of change provided data for recommendations that can enhance school improvement.

In more than ten years of research on change in schools, the CBAM/RIP program of the Research and Development Center for Teacher Education at the University of Texas at Austin has viewed change as it affected individuals (Stages of Concern, Levels of Use); as it was represented in programs (Innovation Configurations) and as it was reflected in the actions of different role groups (Interventions). More current research, however, puts all of these dimensions together to develop a picture of the change process as a whole -- what has to happen to make change occur, who is involved, what stages or steps it might go through, what options exist and why.

The papers in this symposium are based on two research efforts, the Principal-Teacher Interaction Study (Hall, Hord, Huling, Rutherford, Griffin, Goldstein, Stiegelbauer, & Newlove, 1982; Hall, Hord, Huling, Rutherford, & Stiegelbauer, 1983) and the High School Study (Hall, Hord, Guzman, Huling-Austin, Rutherford, & Stiegelbauer, 1984; Rutherford, Hord, Huling-Austin, Stiegelbauer, Murphy, Putnam, Hall, & Muscella, 1985), focused on change in elementary and high schools. The studies identified the roles of various constituent groups in the change process and the kinds of change occurring. Sites utilized in the studies were geographically representative of the United States. Schools included those of various sizes: urban, rural, and small.

In the Principal-Teacher Interaction Study, participants were trained to document interventions made by themselves and others. The researchers conducted on-site and telephone interviews at systematic intervals. Additionally, data were collected from teachers using the diagnostic dimensions of the Concerns-Based Adoption Model (CBAM).

Data collection for the High School Study involved on-site visits by a research team for several days. During that time extensive interviews were conducted with members of various role groups. The interviews were designed to elicit information about the role of individuals in change, their interactions with other groups and the influence of contextual factors on change.

The data collected from both studies were subjected to content and process analyses. The findings reported in this set of the symposium papers are syntheses of those analyses. The papers and their authors are as follows:

The facilitation of change in elementary and secondary school--Similarities, differences, and interactions about the process by Stiegelbauer, S.M., Muscella, D.B., & Rutherford, W.L.

Teachers: Their contribution to school improvement by Rutherford, W.L.

Institutionalization of innovation: Knowing when you have it by Hord, S.M. & Hall, G.E.

Selecting and training educational leaders to be facilitators of school improvement by Murphy, S.C., Huling-Austin, L.L., & Stiegelbauer, S.M.

The symposium was chaired by Betty Ward, President of the Center for Interactive Research in San Francisco, who also served as a discussant. Discussant responsibilities were also shared by Ron Brandt, Executive Editor of the Association of Supervision and Curriculum Development. Both discussants are exceptionally well-qualified to discuss and critique this body of work as a result of their expertise and work in the area of school improvement. Discussant remarks follow the papers.

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THE FACILITATION OF CHANGE IN ELEMENTARY AND SECONDARY SCHOOLS -- SIMILARITIES, DIFFERENCES, AND INTERACTIONS ABOUT THE PROCESS

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(R&D Report 3218)

Paper presented at the annual meeting of the
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The research described herin was conducted under contract with the National Institute of Education. The opinions expressed are those of the authors and do not necessarily reflect the position or policy of the National Institute of Education and no endorsement by the National Institute of Education should be inferred.

THE FACILITATION OF CHANGE IN ELEMENTARY AND SECONDARY SCHOOLS -- SIMILARITIES, DIFFERENCES, AND INTERACTIONS ABOUT THE PROCESS

Suzanne M. Stiegelbauer
Deborah Muscella
William L. Rutherford

Involved in the process of writing on any topic, is deciding where is the right place to start. This is certainly true when writing about school change. The issue of change, and specifically educational change, is a big one. All sorts of things can be influences on change -- from what the change is to whom the change is impacting to how many changes are going on at once and the interactions between these variables.

This paper is overtly titled -- The Facilitation of Change in Elementary and Secondary Schools. Covertly, however, what we are talking about is what happens to schools in the process of change and what practitioners can do to better structure and facilitate that process. The purpose of this paper is to examine the process of change and the role of the change facilitator in the context of both the elementary and the secondary school. To do so, we are drawing on research experience with many schools involved with different kinds of changes.

The work conducted by the Research on the Improvement Process (RIP) Program over the past decade has allowed a group of researchers to study a

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variety of innovations in various schools across the country. The conceptual basis for this research has been the Concerns Based Adoption Model (Hall, Wallace & Dossett, 1973). To date, however, information about the change process, derived from the separate contexts of elementary and high schools, has not been considered comparatively. This is the major purpose of this paper -- to develop a set of principles which address the issues of the successful school change process in both the elementary and the high school context. Several questions are germane to this task:

1. What is the role of the principal in school change?
2. Who is the second change facilitator and other change facilitators and what is the nature of their roles?
3. What actions and interventions are taken for change?
4. What are the similarities and differences between the two levels of schools in the change process?

The quotation below, from Change Masters, provides one frame from which to begin to answer these questions:

> the tools of change masters are creative and interactive; they have an intellectual, a conceptual, and a cultural aspect. Change masters deal in symbols and visions, and shared understandings as well as the techniques and trappings of their own specialties. (Kanter, 1984, p. 305)

In viewing the change process, we are looking in part at the unique techniques and trappings which change masters in schools employ to influence the system to accept the desired change. An analysis of the way in which these change masters, or facilitators, communicate their vision and put their symbols into action is required for a comparison of a successful change process at the elementary and high school levels.

An outline for the discussion in this paper is as follows: first, a brief history of the ideas and research on change conducted by the CBAM/RIP

research team is presented. Next, based on this background and research conducted, we present an analysis of some of the major variables involved in a change effort. Some of these variables, like roles of facilitators and leaders, types of changes, and units of change, can interact differently in each setting. Others, like the actions for change suggested by the game plan components (GPCs) vary little from setting to setting. Finally, case study examples are presented, illustrating how these variables work in different settings.

A comparative synopsis of the findings about the change process at both the elementary and secondary level suggests that there are general principles which are shared by both school settings. This synopsis then leads to a more generalized framework which can be applied in schools, both elementary and high schools, which are undertaking change. The examples cited are taken from schools participating in our research within the last five years. The point of view taken on change, however, stems from research perspectives that go back nearly fifteen years. The paper begins with a review of that perspective.

THE CBAM MODEL: A Perspective on Change

Research on the process of change began in the 1970's with the tide of Great Society programs and increased Federal interest in the improvement of schools. A major research effort directed at understanding the process of implementing such improvements in schools has been that of the RIP staff at the Research and Development Center for Teacher Education at the University of Texas, Austin. This research is directed at the development of knowledge about and new understandings of the change process and the provision of tools and assistance for practitioners involved with the implementation of change in schools.

The Concerns Based Adoption Model (Hall, Wallace, & Dossett, 1973), evolved out of extensive research on the implementation of educational innovations in schools and college settings. Underlying the CBAM model are a number of basic assumptions (Rutherford, Hall, Huling, 1984):

1) Change is a process, not an event.
2) Change is made by individuals first, i.e., the individual needs to be the primary focus of actions taken for change.
3) Change is a highly personal experience; everyone reacts differently.
4) Change entails developmental growth in feelings and skills; there are identifiable "stages" and "levels" of the change process as experienced by individuals.
5) Change is best understood by individuals when it is presented or described in operation, as it would appear when fully in use.
6) Change can be best facilitated when actions are based on the diagnosed needs of individuals; a client-centered diagnostic/prescriptive model has benefits for both client and facilitator.
7) A change facilitator needs to work in an "adaptive/systematic way," adapting their interventions to the needs of the change and clients within the change. Further, any interventions or actions taken to facilitate change must be directed to individuals first, and innovations second.

Out of this perspective and as a result of ten years of research in schools, the CBAM/RIP program has developed and refined a set of conceptual frameworks for planning, facilitating, monitoring, and evaluating change in schools. The dimensions of the CBAM include:

1) Stages of Concern (SoC), which is used to assess user concerns or

feelings about a change (Newlove & Hall, 1976; Hall, George & Rutherford, 1977);

2) Levels of Use (LoU), which is used to determine the actual extent of use based on behavioral indicators (Loucks, Newlove & Hall, 1976). Both these measures stem from theories of adult development (Fuller, 1969; Fuller, 1973) and extensive testing in the field;

3) Innovation Configurations (IC), which is used to describe the innovation or change (Heck, Stiegelbauer, Hall & Loucks, 1981); and

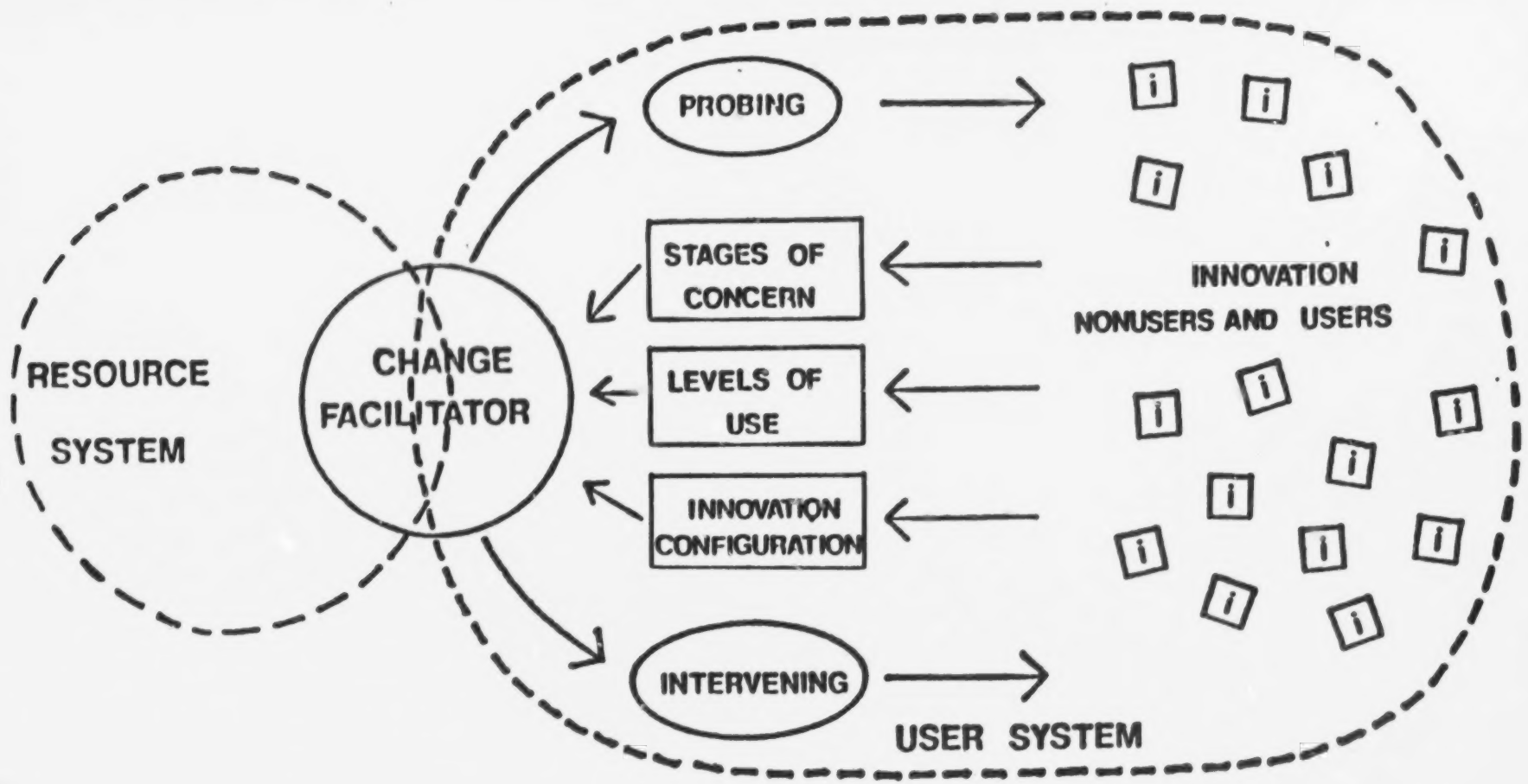
4) the Intervention Taxonomy (IT), which describes and categorizes actions taken by facilitators in implementing or monitoring change (Hall & Hord, 1984).

All of these dimensions are field based and continue to be tested through ongoing research by CBAM/RIP staff, various implementation efforts in schools, and dissertation studies.

A schematic diagram of the model is presented in Figure 1. This diagram takes the position that changes, or innovations, are promoted, or facilitated, by one or more change facilitators, or CFs. These change facilitators work with a target group to whom the change is directed, i.e., the target group is those who are to become the users of the innovation. Facilitation then becomes a result of the interaction between the facilitator(s) and the target group.

The diagnostic dimensions of CBAM -- SoC, LoU, IC -- and the Intervention Taxonomy all represent ways that this interaction can be structured to promote a positive response to the change by the target group. Each dimension provides information about some quality or characteristic of individuals within that group relative to the change. The facilitator can use that information to design interventions that would better meet the needs of the

THE CONCERNS-BASED ADOPTION MODEL



Hall, G. E., Wallace, R. C. & Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin: Research and Development Center for Teacher Education, The University of Texas, 1973.

FIGURE 1

group. Informal probing can provide information that can be translated into action. Facilitators also have their own resource system that can provide them with ideas and options for facilitation.

The model itself is dynamic in that as the target group changes in response to the innovation and facilitator interventions, the information presented through probing and the diagnostic dimensions also changes, resulting in new actions and interactions. Use of this model is innovation specific, in that the CBAM model represents an interaction for change focused on only one innovation at a time. The interventions suggested by the diagnostic dimensions often exist in the realm of common sense. The value of the model, however, lies in structuring or quantifying such information about the change process in a way that contributes to encouraging the process. The dimensions represented in the model provide ongoing information to change facilitators so they can better plan their actions and monitor progress.

A Model of Interactions for Change

The CBAM model as presented in Figure 1 has been developed to describe kinds of interactions to facilitate change from the point of view of the facilitator and the potential users of the innovation. In a sense, the effectiveness of change efforts might be measured in terms of the quality of the interaction between the users and the facilitators. The change effort is only as "good" as the interaction is "good."

In order to learn more about the characteristics of this interaction, the roles involved in it, and influences on it, the CBAM/RIP program developed two studies focusing on different aspects of the overall model. The first, the Principal-Teacher Interaction Study, investigated the characteristics of facilitators, in particular the principal, working within a single elementary

school unit. The second, the High School Study, took a broader look at the whole system as it responds to change -- including the District Office, teachers and others as facilitators and sources of change, as well as other contextual factors influencing change. The examples used to illustrate points in discussion are taken from these two studies.

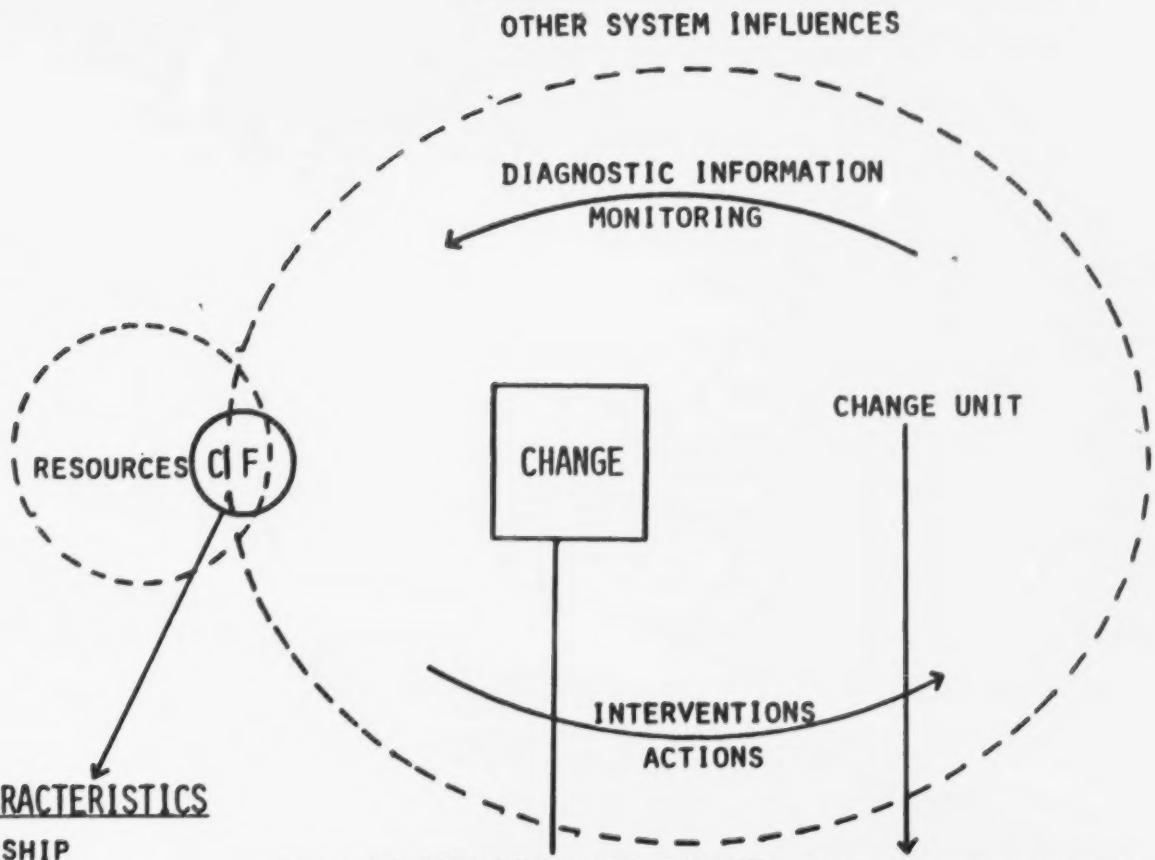
Out of this research came another view of the change process, reflecting the diagnostic-prescriptive model shown in Figure 1, but encompassing the range of variables uncovered in research on diverse settings. This model, shown in Figure 2, presents the issue of interaction for change as one of a selection of options depending on:

1) the characteristics of the change.
2) the characteristics of the target change unit.
3) the characteristics of the facilitators available and responsible, as well as the characteristics of the leadership exercised as part of the process.

Each of these sets may be configured differently at any individual site. Some combinations, however, are more common than others. All of these variables and their role in change will be discussed in later sections.

The following discussion illustrates the change dynamic more simply. The considerations involved in any given change include both its characteristics and the impact they will have on new users and its "raison d'etre" -- reason for being -- the goals involved with introducing it to the system. Any introduction of something new to a system results in some kind of system response. Without a structured plan for introducing and integrating the change into the system, the response factor can delay, modify intended use, or reject the change altogether. This phenomenon can be observed in many kinds

FIGURE 2



CF CHARACTERISTICS

LEADERSHIP
PRIMARY CF
2ND CF
CF TEAM
FLEXIBLE GROUP

PLAN OR STRUCTURE FOR CHANGE

CHANGE CHARACTERISTICS

SOURCE
SIZE AND COMPLEXITY
INNOVATION REQUIREMENTS
GOALS OF CHANGE
FIDELITY

UNIT CHARACTERISTICS

SIZE
ORGANIZATION
HISTORY/PERSONALITY OF GROUP
OTHER PRESSURES

of changes -- from political revolutions to the resistance to acculturation by the indigenous peoples, to the acceptance of new technologies.

In the case of change in schools, the change facilitator has the role and responsibility of mediating the introduction of something new through the interactions they have with users, and through the plans they make to clarify goals and implement the change. In most schools, this means acknowledgment or sanction at the minimum by the principal as gatekeeper, or a formal structuring of roles and responsibilities for a full-fledged effort. The role of the facilitator can be assumed or delegated by the principal depending on the needs of the change, what the change is, its complexity and requirements, and the nature of the target group, i.e., its size, and to some extent, its characteristic responses. In designing actions, the facilitator needs to consider what is known or anticipated about both the change and the target group.

Change as it is represented in this model becomes a matter of "if" this characteristic, "then" these structures or actions. The if-then statement becomes incorporated into the plan for the change. Some of what is appropriate in this equation is represented in what has been learned in the PTI and High School Studies about the characteristics and interactions of each set of variables -- facilitators, changes, and different change units.

BACKGROUND ON THE PTI AND HS STUDIES

The Principal-Teacher Interaction (PTI) Study conducted over the 1980-81 school year, focused on the role of principals as the major facilitator of change in their schools. While the literature on leadership had presented some indicators of what was effective, little research had been done on principals as facilitators of change. What are the day-to-day interactions

and actions taken by principals as facilitators of change. How do they organize an implementation effort? How do they support the use of new practices and encourage teachers? Do all principals do the same thing? If not, what effect do these differences have? Are there other facilitators involved?

With such questions in mind, the PTI Study was conducted with nine elementary school principals involved in implementing a curriculum innovation in their school. Through a combination of data collection methods, including interviews, daily logs, and bi-weekly phone contacts, the daily intervention behaviors of these principals were surveyed over the course of one school year (Hall, Hord, Huling, Rutherford, & Stiegelbauer, 1983). The principals in the study were selected by their district on the basis of district assessment of the principal's change facilitating "style" or characteristic leadership behaviors. Earlier studies had suggested that the principals' "style" might indicate their approach to implementation and its effectiveness (Hall, Rutherford & Griffin, 1982). SoC, LoU, IC and Intervention data were collected from teachers at three points during the year to monitor implementation efforts (Huling, Hall, Hord & Rutherford, 1983). Interviews and observations at regular intervals rounded out the picture of the schools' response to the change (Stiegelbauer, Goldstein & Huling, 1982).

The findings from the PTI study were diverse: 1) Principals did exhibit different "styles" of facilitation and there was a relationship between principal "style" and the effectiveness of implementation efforts (Hall & Rutherford, 1983; Huling, Hall, Hord & Rutherford, 1983). 2) The actions of the principal and others could be categorized in terms of the Intervention Taxonomy (Hall & Hord, 1984) which revealed different "game plans" for change. Further, 3) an analysis of interventions from each school, when considered in

the light of implementation success, suggested the kinds of actions that needed to be taken for effective facilitation. These groupings of actions, called Game Plan Components (GPC's), provided more explicit information about the nature of interventions (Hord, Huling & Stiegelbauer, 1983). 4) Finally, the study showed that in each school, the principal was not the only facilitator. Each school had a second change facilitator (2nd CF) who came to light in the course of more indepth work in the school. This facilitator's role was different from, but complementary to, the role of the principal (Hord, Stiegelbauer & Hall, 1984).

The Principal-Teacher Interaction study provided information about the roles of facilitators, in particular the principal, the nature of their actions contributing to change and the effect of those actions on teachers. Each of the innovations viewed in the study represented a school wide change, requiring the principal to structure efforts to meet the needs of different grade levels and individuals. The unit of change in this study was the whole school. The nature of the interactions for change is described through the portrait of the effort drawn from the qualitative and quantitative data on interventions and their effects, as well as the impressions of research staff collected over the school year (Hall, et al., 1983).

The High School Study, conducted in different phases from 1982-1985, took a broader and more descriptive view of the change process. During Phase I, the 1982-83 school year, one or more staff members visited 12 high schools in Texas, Oregon, Maryland, Indiana, New York and Florida. These exploratory visits were made to become more familiar with the organizational structure of the high schools and the change efforts taking place, and to examine possible sources of information and explore strategies for future data collection efforts (Huling-Austin, 1984). In each visit, school administrators,

department chairpersons, teachers and students were interviewed to gain their insights about how change occurs, what innovations were present, and how to best conduct research on change in high schools. Phase II of the high school study, which occurred during the 1983-84 school year, was a descriptive study designed on the basis of the findings from the previous year. (Hall, et al., 1984) Four major research questions provided the focus for this study:

1. What are the types, sources and purposes of change in high schools?
2. What are the key units (school, department, etc.) of change?
3. What are the situational factors that most influence the change process?
4. How is the change process managed in high schools?

To answer these questions it was deemed important to look at high schools located in different size and type communities and at schools with varying change dynamics, that is, schools with much change and those that were more typical for each district. Community types were rural, urban, suburban and mid-size cities; the high school size varied with the type of community. Nine sites were chosen in 9 states geographically distributed across the nation. At each site 2 high schools were selected as study schools (N=18), one a typical school and the other with much change ongoing.

The third phase involved 2 school districts and in each district 2 high schools and 3 elementary schools. (Rutherford, et al., 1985) The purposes of this phase were:

1. To determine the role of the district office in school change.
2. To compare the change process in elementary and secondary schools.
3. To investigate the management of change over the long term, and
4. To study how leadership affects the change process.

This phase also aimed to revisit some of the elementary schools that participated in the PTI study to see how their implementation efforts had progressed after two years. Special attention was devoted to understanding the role and function of different constituent groups including department chairpersons, district personnel, and teachers in school improvement efforts (Hord & Murphy, 1985). Another goal of Phase III was to draw together the research conducted to date, to bring together the understandings about change in different settings. What about the change process is generic? What is specific to a given setting? How does leadership influence change? What suggestions can we make from all this data that would have value to practitioners?

The High School Study viewed change in terms of the whole system. Taken in all, Phases I, II, and III include data from a total of 30 high schools and 9 elementary schools. Findings from the study include information about the sources and diversity of changes impacting high schools (Rutherford and Huling-Austin, 1984), the nature of leadership for change in high schools (Hall and Guzman, 1984; Huling-Austin, Stiegelbauer and Muscella, 1985; Hord and Murphy, 1985), situational factors influencing change in high schools (Stiegelbauer, 1984; Stiegelbauer, Haddad & Murphy, 1985), the roles and reactions of teachers (Rutherford and Murphy, 1985), and the role and influence of the district office on change in both the high school and elementary school (Hall, Putman and Hord, 1985).

When considered together, the PTI and the High School Study data present a clearer picture of some of the variables associated with change -- the nature of change facilitators, change units, changes themselves, and of the actions taken to facilitate change efforts (see Figure 2). Further, when the data from the PTI and high school studies are considered comparatively, it

suggests that the change process is more alike than different across settings. Based on a comparison of the change process at the two levels, this paper explores the hypothesis that a better understanding of the nature of each of the variables contributes to a theory of the whole of the change process. These data suggest that the process of change is the result of patterned interactions between these variables. The following sections present the parts (of the whole) with examples from schools visited in the PTI and HS Studies. The conclusion of the paper illustrates how these parts were operationalized in four annotated case study descriptions of schools in change.

THE VARIABLES INVOLVED IN CHANGE: CFs, UNITS, AND CHANGE ITSELF

Who Are Change Facilitators?

The word "to facilitate," according to Webster's, means "to make easier." The research conducted in elementary and high school settings showed that there were many different "change facilitators" in the schools -- in many different roles. These roles included principals, assistant principals, department heads, grade level leaders, in-school resource and curriculum specialists, district level curriculum coordinators and resource teachers, even peer teachers. Each of these had a role in facilitation that was related to the kinds of interactions demanded by the change and the setting.

Research also showed that whatever their official title or role, the role played by individuals as change facilitators could be better characterized by the actions and interactions they engaged in within the change process than by their formal designation in the school. For example, the principal is considered to be the "leader" of the school; his or her role is one of leadership. In the case of a change in process, the principal may provide

leadership for the change and become the primary, or first, CF (change facilitator). Alternately, the principal may not have an active role in the facilitation of change and allow another person, perhaps a department head or individual teacher, to assume the role of 1st CF. Alternately again, the principal may delegate the role of 1st CF or create a team of change facilitators with shared responsibility. In many ways the principal represents a special case as a change facilitator because of his importance as a "gatekeeper" and symbolic head of the school. Evidence suggests that the principal's vision for the school and "style" of interaction within change can have important consequences for the success of change efforts (Hall, Rutherford, Hord and Huling, 1984; Rutherford, 1984; Rutherford, Hall & Hord, 1983; Rutherford, Hord, Hall & Huling, 1983; Huling-Austin, Stiegelbauer & Muscella, 1985).

Figure 3 shows some of the roles and role groups involved in the change facilitator. The discussion following illustrates how these different roles are configured. First, what is the nature of change facilitation roles and how do they differ from one another?

The primary, or 1st, CF. The 1st CF is the individual who has major responsibility for facilitating the change. This includes the introduction of the change, managing the change, communicating about the change, and monitoring results and responses of individuals. The 1st CF may be the link the change unit has with others outside the school about the change or the change effort. Depending on the size and complexity of the change, this change facilitator may be the only individual to work with others about the change. If so, that work would include the kinds of activities described for other facilitators that follows. If there is more than one facilitator, however, activities could be shared between facilitators. It is important,

FIGURE 3

CHARACTERISTICS OF CHANGE FACILITATORS

ROLE	WHO	RESPONSIBILITIES
Primary CF	Principal	Sanctions Use
		Communicates Expectations & Goals
	District office person	Structures Facilitation Plan
		Delegates Responsibilities to Other CFs as Necessary
	Line Administrator	Monitors Process Formally
		Provides Push, Resources & Encouragement
		Maintains Leadership in Process
		Models Expectations
Second CF		
	Resource teacher	Credible to Other Teachers
		Communicates Knowledge About Change, Training
	Assistant Principal	Coaches
	Teacher on special assignment	Provides One-to-One Problem Solving, Consultation
		Models Behavior Regarding Change
	District office staff	Monitors for Purpose of Feedback and Correction
	Department Head	Is Liaison Between Change Unit and Primary CF

ROLE	WHO	RESPONSIBILITIES
Second CF (cont'd)	Team Leader	Works With Primary CF to Design and Restructure Plan as Needed
Other CFs		
	Regular teacher	Credible to Other Teachers Communicates With Peers About Change Models Monitors Process for Peer Group Informally Is Representative For Peers To Other CFs About Process
	District consultant	Communicates With School About Change Provides Information, Resources For The Change Is External Consultant to CFs and Teachers Regarding Change or Process

however, that one person take the leadership role and maintain that leadership consistently throughout the change process. The role of the 1st CF/change leader may best be assumed by the principal who can provide the sanction and push necessary to get the change in place.

The Second CF. One surprising finding to come out of the Principal-Teacher Interaction Study was the discovery of a Second Change Facilitator at each school who was involved with implementation (Hord, Stiegelbauer & Hall, 1984a, 1984b). In the PTI schools, the principal was assumed to be the primary facilitator. These second CFs then played a complementary role to that of the principal in the way they involved themselves in the change process. In general, they were more likely to be curriculum specialists, assistant principals, resource teachers, or lead teachers rather than administrative staff. They worked more interactively with teachers involved in the change providing training, consultation and problem solving on an individual basis. They monitored the process for the purpose of corrective feedback and planning rather than for summative evaluation. Further, they often acted as communicators to the primary CF as to the responses of individuals about the change and in order to plan revisions based on those responses. They also communicated to users about plans that involved them or clarified expectations about the change (Stiegelbauer, 1984; Hord, Stiegelbauer & Hall, 1984a, 1984b).

Other CFs. In some schools the role of the change facilitator included persons in closer communication and contact with the teachers involved in the change. In one elementary school where the principal was the primary CF and a district resource person was the second CF, a grade level leader was selected for each grade to work with their own grade level teachers and to be a liaison person with the second CF. As the second CF was external to the school, these

grade level leaders worked with staff to solve problems about the innovation, in this case a curriculum change.

In another district, teacher committees were identified by the principal to work with the second CF (an assistant principal) to plan and act as consultants for the innovation, again a curriculum change. This school, a high school, found that involving teachers in committees focused on some aspect of the change effort was especially beneficial in whole school change efforts. A major function of involving other CFs beyond a second CF would appear to be one of communication and the development of teacher ownership of the change (Huling-Austin, Stiegelbauer & Muscella, 1985).

In still another district, the District Curriculum Coordinator for a new elementary mathematics text served as an external facilitator to the school implementing that innovation. In the school itself, the principal was the primary CF and an in-school curriculum specialist was the Second CF. The District Coordinator provided information to both facilitators about the requirements of the math program and worked with them to develop an implementation plan for the school. She worked with teachers only as requested by the facilitators. The major interventions in the school were done by either the principal or the second CF in coordination with one another.

Leadership Factors for Effective Change

If change is to be effectively accomplished in a school, regardless of level, some factors must be present at the leadership level. There must be clear goals and a commitment to them, enthusiastic support of the innovation or change, high expectations and a clear communication of those to teachers, active involvement in planning, coordinating, and evaluating the implementation effort, active support and assistance to teachers, provision of

necessary resources, including time, needed by teachers to make the change, modeling of what is expected of teachers, care for the personal welfare of teachers, and rewards for teachers who perform well in the change process (Rutherford, Hord, Huling, and Hall, 1983). When there are facilitators in different roles or a team of facilitators, these responsibilities or characteristics might be spread across the facilitators involved. As described in Figure 3, the principal or primary CF provides administrative supports and sanctions, while a second CF attends to one-to-one problem solving and support. Yet each in their own way expresses many of these characteristics essential to effective change.

The potential for the existence of multiple facilitators, however, demands structure and leadership if those facilitators are to be effective in implementing and maintaining the change. Facilitative teams do present many advantages during initial stages of implementation -- they tend to minimize overload on the rest of the organizational system; tasks for a team can be more easily modified than modifying the whole system; and a team can more rapidly communicate to others expectations, goals, and plans for a change than can one or two individuals. All facilitators must, however, be credible to users and administrators alike. They must also be in agreement as to the nature and scope of the change effort, and they must communicate with each other on a regular and frequent basis about the implementation process.

In all of this the principal continues to have a major role. The principal is seen by teachers as a leader in the school. The principal has the resources to structure what is needed for change, even if he delegates major tasks to other facilitators. The choices principals make about structuring change and utilizing (or not) other facilitators may be indicative of their facilitation "style" (Hord, Hall & Stiegelbauer, 1983). "Style"

proved to be an important indicator in the PTI study of how second CFs operated in the school and where they were located, that is, whether they were internal or external to the school. At the high school level, the involvement of different groups and leaders cooperating for change appears to be one way to accommodate for the complexity of the institution and to cross departmental and administrative lines. There, second and third CFs were a useful tool in communicating to user groups and increasing their commitment and knowledge about a change (Huling-Austin, Stiegelbauer & Muscella, 1985).

No one suggestion about facilitation, however, is necessarily the "right" one. The implications from the PTI and HS studies are that there is no one effective strategy for successfully implementing change and no single pattern for providing leadership. Change can occur without the principal but not without some principal sanction, in other words, facilitation does not have to come from administration but usually involves administration in some way. Administrative authority is usually needed to structure, delegate, and organize persons in roles of responsibility. Thus, leadership from a line administrator becomes an imperative both in form and symbol. Further, schools need to decide the best strategy for the change process, based on the personnel available and the size of the effort. This decision is likely to involve the principal in some way, even if the major responsibility for facilitation is elsewhere. The involvement of the principal with teachers about change is likely to have positive benefit for the change overall, if only as an indication of official support (Huling-Austin, Stiegelbauer, & Muscella, 1985).

Who Are the Targets, or Units, of Change?

Any interaction about change involves individuals or sets of individuals who are the targets of the change. These potential "users" respond to the

dictates of the change itself and also to the actions of CFs. Their responses can be measured through the CBAM dimensions of Stages of Concern, Levels of Use, and Innovation Configurations and can provide useful information to a facilitator about how the change might be managed.

The PTI and High School Studies looked at changes that affected different groups or numbers of potential users. If a change involved all or most of the faculty of a school, the unit of change was school-wide. If a change involved one faculty group, such as a department or all sixth grade teachers, then the unit of change became that group, and so on. All of the curriculum innovations studied in the PTI study were school-wide innovations, but there were other innovations in the schools that involved only groups. The High School study had the intention of looking at a variety of types of changes and their target groups, including district-wide, school-wide, and those affecting individuals (Rutherford & Huling-Austin, 1984).

Considering the unit of change and its characteristics has value in planning and structuring change efforts from two perspectives -- 1) the size of the unit, its formal leadership, and the unit's previous experience with similar change which could be important to planning; and 2) the characteristics of teachers as individuals, since their concerns and background can condition their involvement and commitment to the process.

Yet, as the unit of change is largely determined by the change itself, it is difficult to talk about one without the other. The findings in the High School Study revealed that over half of the changes that were reported involved the whole school (54.4 %). Sub-units, such as departments, were involved in 28.6% of the changes listed and individuals as units in 17% of the changes listed (Rutherford & Huling-Austin, 1984). This finding was

surprising to researchers, as popular conceptions of high schools suggest that departments would be the primary unit of change.

As the size of the unit of change increases, the need for formalizing communication, problem-solving, assistance, and monitoring in the change process also increases. Many of the facilitation "teams" and second change facilitators in the High School Study were attempts by the principal or primary facilitator to make the unit of change manageable -- to subdivide it, or to provide small group leadership by using other CFs (Huling-Austin, Stiegelbauer, and Muscella, 1985). This was especially true of whole school change efforts. The facilitative "teams" developed for one change, however, did not necessarily remain the same for another change. Many schools that utilized facilitation teams varied membership on those teams with the changes they were trying to implement. This had the function of involving more teachers in leadership roles and responsibilities.

One example of this is an elementary school, originally in the PTI Study and revisited as a part of the HS Study. This school had a Second CF who was the district facilitator for the innovation. As a result of her use of grade level groups and leaders in that effort, the principal now utilizes a Second CF from within the school and, working with her, divides the school into smaller units, each with some informal head. This becomes a facilitation "team" with the principal and Second CF as the planning and monitoring "head." When last visited, the school had three such teams -- one for writing skills and a school magazine, one for computer literacy, and one for a new reading text. As the teachers in this school were highly self-motivated and ambitious, involvement in roles of responsibility, leadership, and communication enhanced their feelings of ownership in the school.

What Do We Know About Changes Themselves?

In the PTI Study, researchers worked with the schools or district staff to develop a "configuration checklist," an operationalized description of the innovation in order to view the behaviors of teachers throughout the year in relation to the program description (Hall et al., 1982, Heck, Stiegelbauer, Hall & Loucks, 1981). This process allowed the research staff, program developers and facilitators to see how well the program had been understood by teachers in the nine study schools as well as how teacher behaviors changed as they became more practiced with the innovation.

The High School Study examined the types of changes found in the 30 schools throughout the country. By comparison, the PTI study viewed teacher behavior longitudinally relative to one specific change in the school. The changes found in these high schools were grouped by size and complexity as well as by content. Almost all of the changes were in some way directed to the improvement of student achievement, or in response to contemporary demands on schools for knowledge of computers, new business machines, drug awareness, better parenting, etc. The areas of curriculum and administrative planning and organization were the types of changes found in the highest percentages of all types listed. Few changes addressed teacher or administrator behavior or professional development. Fewer still represent major reforms (Rutherford & Huling-Austin, 1984, Rutherford and Murphy, 1985).

Another consideration in viewing the change in high schools was the source or impetus of the change and its relation to teacher response to the change. Of the changes viewed in the HS Study, approximately 71% came from a source other than teachers. These other sources included mainly local school and district administrators, and a few from parents, community, students and contextual factors. When all the known sources were considered, district

administrators accounted for the largest number of changes, followed by collaborative teacher efforts, local school administrators and individual teachers (Rutherford & Murphy, 1985).

Not unexpectedly, teachers were found to respond more positively to bottom up changes (87% by self-report and interview). However, when the changes were top down, teacher reactions were still positive 52% of the time. Also, not unexpectedly, changes that were required received less positive response than changes that were optional. Further, viewing the degree of change in practice required for teachers to accommodate the innovation -- major, moderate, or minor -- also had predictable outcomes. Teachers responded more positively to changes that were minor in degree than major. Further, teachers were more positively inclined to changes not focused on themselves. When changes were targeted to teachers, it drew a lower percentage of positive responses and a higher percentage of negative responses than any other targets. (All data from Rutherford & Murphy, 1985).

Of the five factors considered in teacher response -- source, required or optional, degree, requirements for use, and the target of the change -- the one that drew the greatest reaction from teachers was the source of the change. When the change was initiated by teachers, their reaction was positive 86% of the time, neutral 7% and negative 7% of the time. When the change came from other sources, teachers reacted positively 38% of the time, negatively 22% of the time, were neutral 32% of the time, and had a mixed response 8% of the time. While there may be many reasons for this range of response, it does support the implication that teacher involvement and ownership is an important element in a positive response to change.

Teacher response to change in the PTI Study was measured by the changes in their concerns and levels of use over a year's time. As the PTI Study was

focused on response to one innovation which was being implemented school-wide, teachers' response might be as indicative of the information provided and actions taken by facilitators as it was a response to the characteristics of the innovation itself.

Another significant consideration in viewing the changes, is the clarity of the innovation to teachers. Research done on Innovation Configurations divided innovation descriptions into implementation requirement, those things necessary to begin working with the change -- getting materials ready, providing training -- and the operationalized behaviors involved in becoming a user of the innovation (Heck, Stiegelbauer, Hall & Loucks, 1981). Implementation requires actions directed to both aspects. Often facilitators provide the necessary setup but not the coaching or problem-solving necessary to clarify behaviors needed to make the program work. PTI study data indicated that facilitator interventions in the area of providing organizational supports were consistent across all schools. In schools that were more successful in implementation, these setup activities were balanced by interventions directed to consultation, reinforcement, and problem-solving (Hord, Huling, and Stiegelbauer, 1983). Further, in schools that had greater implementation success, the 1st or 2nd CF worked to enrich or refine teacher understanding of the innovation as use was established over the year. In some schools, this was done by sequentially introducing, clarifying, and practicing with separated components of the change; in others, it was done through problem-solving and consulting with individuals in need of help.

Implementing Change Variables: Important Considerations

The sections above describe some of the variables to be considered in viewing a change process and developing a plan for facilitating that process. In summary, these variables include:

1) Who will be primary leader in the change process?

2) What is the target of the change, what is the size of the unit of change?

3) If the unit is large, what is the best strategy to make it a manageable unit?

4) Who would be best suited for the role of Second CF, given the innovation and the unit of change? In some situations, a curriculum expert for the innovation, if receptive to teachers, might help clarify and work through the innovation; in other situations, a department head or in-school leader, accustomed to working with staff, might better marshall teacher support.

5) Would a facilitation team, involving teachers, be a good idea? If so, who should it include, and how should it be organized and monitored?

6) What is the innovation? What is its source? What do teachers know about it? What kind of concerns do they have about it? How complex is it? How many other changes are going on?

7) What is the best way to provide clarity and reinforcement for the change? Who should define it? How is it best explained to teachers?

All of these considerations are site-specific. Leadership for change includes knowing not only the requirements of the innovation but the characteristics of teaching staff, who might be available and responsible CFs, and strategies for making the change manageable.

The research findings from the PTI and HS Studies point to the principal as having a major role in leadership, especially in changes that involve the whole school. The delegation of responsibilities to other staff, providing

resources, including time for teachers to practice and adapt to it, support and push for the change, involved the principal. In schools where implementation was more successful as determined by data or as nominated by district administrators, the principal had an active role in structuring, supporting, and monitoring the process. Even in schools that were engaging in many changes at many levels, the principal monitored the pulse of each of those efforts.

The next section describes some of the actions taken by facilitators in implementing changes. These actions, or interventions, were found to have a consistent pattern in successful PTI schools, regardless of the innovation or the facilitators. Descriptive data from the high schools supports the hypothesis that this pattern is an important one. Facilitators in high schools also engaged in these same classifications of activities directed to making their changes work.

A CONSTANT IN THE CHANGE PROCESS: INTERVENTIONS

Actions for Change

The purpose of this section is to discuss the actions which change facilitators take in elementary and high schools in the implementation process. In considering actions for change, two major components are discussed: game plan components and system feedback. A general description of the intervention components which change facilitators typically use provides the backdrop for vignettes from both the elementary and the high school. Four brief case studies from elementary and high schools that were part of the PTI and HS research are then presented, illustrating the role and interventions of facilitators who were effective in implementing change.

A Game Plan

Change masters, says Kanter (1984), understand the crucial paradox of the change effort: "there needs to be a plan, and the plan has to acknowledge that it will be departed from." The plan, departure from it, and the restructuring of the plan are the rubric which direct the actions of the change facilitator during the implementation process. The PTI researchers discovered a cyclical pattern in the actions of principals who were "change masters." First, they had a vision of their school which became the plan. The plan was then carried out through the actions they took. Finally, they monitored the effects of these actions to allow for effective restructuring of their plan.

The plan, or game plan, utilized by principals in the PTI study was an overall design for the interventions required to implement the change in their schools. In developing this game plan, these principals considered all aspects of the implementation effort and all persons both directly and indirectly involved with the change effort (Hall, et al., 1983; Rutherford, Hord & Thurber, 1984). In addition, these plans were found to have four major game plan components which directed the principal in providing leadership in activities which supported the teachers in instructional improvement. These specific game plan components, part of the intervention taxonomy developed by the RIP program from PTI and other data, are:

1) developing supportive organizational arrangement,
2) training,
3) providing consultation and reinforcement, and
4) monitoring and evaluating (Hall & Hord, 1984).

When the change facilitator put all four of these game plan components into operation, the likelihood of successful implementation is increased, according to the PTI data (Hall et al., 1983). Figure 4 depicts the game plan components, definitions, descriptors, and examples. The following illustrates these game plan components through vignettes from the PTI and Phase II High School Study:

Developing supportive organizational arrangements are the nuts and bolts of the change process in which the change facilitator keeps the organizational mechanism well-oiled so that the change can work in the system. This game plan component represents the logistical requirements which assure that the organizational mechanism can accommodate the innovation. A high school principal wanted to provide the time for the assistant principals and department heads to assume instructional leadership roles; their time, however, was consumed by paperwork, leaving little time for direct contact with teachers in a facilitative capacity. The principal in this particular high school allocated more instructional support time to this leadership team through streamlining the "administrivia" of the school. She acquired a personal computer system necessary for creating a record management system for routine paperwork. This action by the principal was an organizational arrangement which gave the requisite time to the other members of the leadership team to directly support a new instructional program.

In contrast, an elementary school principal attacked a specific problem by arranging organizational support. In her implementation efforts surrounding a district-sponsored math program, she discovered that teachers were not using the instructional math kits because the kits were neither organized nor coordinated with the scope and sequence of the math program. The principal facilitated use of the math kits by recruiting parent volunteers

FIGURE 4

	DEFINITION	DESCRIPTORS	EXAMPLES
GAME PLAN COMPONENT	GPC's are the six major functional clusters of innovation-related interventions.	Clusters all interventions into functional groupings. Covers the entire time period of the change process. Includes all actors and events. In combination, covers all interventions of the game plan.	
GPC 1: Developing Supportive Organizational Arrangements	Actions taken to develop policies, plan, manage staff, funds, restructure roles and provide space, materials, and resources to establish and maintain use of the innovation.	Covers logistical and scheduling activities. Includes planning and decision-making about the change process, schedules and people.	Hiring new staff. Seeking/receiving funds. Providing innovation-related equipment.
GPC 2: Training	Actions taken to develop positive attitudes, knowledge and skills in relation to innovation use, through formal, structured and/or pre-planned activities.	Covers formal organized training activities. May be provided for users, administrators or others. Is normally scheduled and announced in advance.	Holding workshops. Modeling/demonstrating Observing and providing feedback related to a pre-specified task.

	DEFINITION	DESCRIPTORS	EXAMPLES
GPC 3: Providing Consultation and Reinforcement	Actions (often idiosyncratic, problem-specific, targetted at an individual or small group) taken to encourage and to assist individuals in solving problems related to innovation implementation.	Is focused on consulting and coaching users/ non-users. Is typified by one-on-one problem solving and informal sharing of tips.	Holding brief conversations about how it is going. Facilitating a problem-solving group. Providing "comfort and caring" sessions.
GPC 4: Monitoring & Evaluation	Actions taken to gather, analyze or report data about the implementation and outcomes of a change	Includes formal and informal assessments. Includes assessment, analysis interpretation and feedback.	Analyzing pre-post learner assessments. Administering end-of-workshop questionnaire. Conferencing with teachers to survey how the new program is going.

From Hall and Hord, 1984, 285-286.

to unpack the kits, and providing a substitute teacher so that teachers had additional planning time to coordinate the instructional materials with the program. Through this action, this elementary school principal both solved a logistical problem and facilitated the use of the math materials. Actions by principals which provided the necessary organizational support for the innovation were found in both the elementary and high school studies.

Training is usually a more formal intervention by change facilitators. Typically, it involves workshops or demonstration lessons which are scheduled in advance. Two vignettes from elementary schools provide examples of ways in which effective change facilitators used workshops and demonstration lessons in tandem to support specific innovations in their respective schools. First, a principal in a rapidly expanding elementary school, in supporting and implementing a district-sponsored pupil management program, personally provided the training to the faculty for one hour each week. He gave further support for this weekly training session by observing in the classrooms and modeling the behavioral management techniques to teachers with students. Next, in a West coast elementary school, a principal facilitated the writing program innovation sponsored by the school district. He commissioned a few teachers to attend a district-wide workshop regarding the writing innovation. As a result of teachers' positive response to this workshop, he juggled school resources to bring the workshop leader to the school, which piqued the interest of other members of the faculty during the initial stages of the implementation process. Both of these principals provided support for the innovation by sponsoring workshop and training sessions to meet the specific needs of their schools.

Providing consultation and reinforcement are idiosyncratic actions which the principal or facilitator targets at individual or small groups of users.

These often occur in brief conversations or problem-solving sessions between the change facilitators and individual or small groups of users. It also includes spontaneous actions like conversations in the hallway, a visit to a classroom, or an informal meeting in the teachers' lounge providing consultation and support for teachers' use of the instructional innovation. One effective high school principal describes her ongoing support and consultation with teachers as "high touch." She translates this concept into actions such as circulating in the hallways and teachers' lounge to talk with teachers about instruction. She also drafts handwritten notes to teachers to thank them for a job well done. She feels this ongoing personal touch allows her to have instructional contact with teachers on an ongoing, informal basis which communicates the importance of the instructional program.

A "change master" elementary school principal took actions which supported the district-mandated writing program. He modeled the process of writing by generating his own stories, which he typed in his office. He then visited classrooms to read his stories to children and teachers alike. The principal used his stories as the springboard for conversing with teachers about implementing the writing process in the classroom. Both of these principals were encouragers: they acted in ways which reinforced the use of the innovation, and each in their own way was a consultant to the users.

Monitoring and Evaluating. When a CF conducts formal and informal assessments, such as observing or conferring with teachers, assessing learner outcomes, and administering end-of-workshop questionnaires, he/she is monitoring the effects of his/her actions on the change effort. Often the actions surrounding the monitoring and evaluation of a system are formal procedures. For example, in one high school, both the principal and the assistant principal were responsible for the evaluation of the teachers. They

performed this task twice a year, and after the evaluation, the principal or the assistant principal had a conference with the teacher in which they provided feedback about the instructional program. This was a formal monitoring procedure. However, in another high school setting, during the initial implementation efforts, the principal consulted with the early adopters of the innovation on a frequent basis so that these teachers would serve as models for the later innovation adopters. These early adopters had to resolve many initial problems in making the program work. Monitoring this process allowed the principal to anticipate the needs of other users.

Generally, monitoring and evaluation occur through visiting classrooms, supervising implementation efforts, and by listening carefully to teacher comments and discussion in personal and group interactions. In some instances where there was more than one facilitator, the principal or primary CF would be responsible for more formal monitoring, while the Second CF would monitor the progress of individuals in a formative, problem-solving way. They would use both forms of monitoring to revise their implementation game plan. Having formal and informal processes of monitoring and evaluating available allowed facilitators to continually assess the outcomes of the change effort.

Feedback on the System

As the researchers from the RIP Program analyzed the data from the PTI study, they discovered that the change facilitators (principals and others) who were successful in implementing the change not only had a plan which they translated into actions, but they also restructured their plan when necessary. They accomplished this by obtaining feedback from the system. This feedback is the link between the change facilitator and the ongoing interventions which the change facilitator takes in the implementation effort. Through observations and conversations, the change facilitator receives frequent input

about the change effort. Once they have received this information, there is a period of reflection in which they evaluate the original plan and reformulate if required.

According to intervention theory, facilitators organize and provide for the process, train, reinforce and problem solve, and monitor results. This monitoring may result in retracing steps to retrain or provide other problem-solving activities and monitoring again.

It is the use of this cyclical process which most obviously separates the effective from the ineffective change facilitators. An elementary school principal was implementing a district-mandated school math program. Her initial goal was to implement the entire math curriculum change during the first year; however, on obtaining feedback from observations in classrooms and conversations with the teachers, she found that to have teachers develop objectives for the scope and sequence of the program was a more realistic goal for the first year of implementation efforts. She revised her plan so that adapting the materials to fit the curriculum became a second goal.

An example from a high school is a summer project begun by the principal in order to beautify a decaying inner city school. The initial positive reaction of faculty members, parents, and students to the mural which began to adorn the walls of the school after the first summer, however, helped the program to grow into a whole school beautification program.

Each of these principals understood the rubric of the change process -- planning, acting, and restructuring. In the actions which change facilitators take for change, the critical aspects of having a game plan and obtaining feedback from the system are part of the repertoire of principals who are effective change agents.

The following are brief case studies of change in four schools, two elementary and two secondary. All of these schools were effective in their change efforts. The principal played a major role in each school, either as primary facilitator or through working with a facilitation team. The case study text describes each setting, highlighting the interventions utilized as a part of the plan for change. The annotations to the right provide a complementary sketch of the change process in the school in terms of the change variables discussed in this paper -- facilitator pattern, units of change, and game plan components.

Change in Action: Four Annotated Case Studies

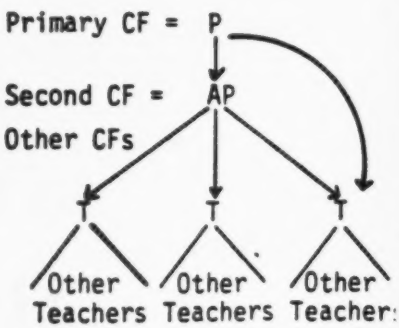
Willow School

Willow is a large, expanding elementary school which serves approximately 800 students in K-6 with a staff of 43 teachers, one principal, and one assistant principal. The community in which the school is located is basically middle class and Anglo. Hispanics comprise 2% of the student population, and Blacks about 15%, most of these students being bussed from inner city. The school is fourteen years old and has been served by the same principal during these years. Tenure of the faculty ranges from 1 to 12 years, with most of the number in the 4-8 year range. There is a general feeling in the school and at the district level that Willow School is a good school with few problems.

KEY

P - Principal
AP - Assistant Principal
DH - Department Head
T - Teacher
S - Student
CF - Change Facilitator
GPC - Game Plan Component

Facilitator Pattern. There are only two formal administrative positions in the school, the principal and the assistant principal. The principal is the visible leader recognized by the faculty. He delegates both responsibility and authority to the assistant principal. Once this basic responsibility is delegated, he does not interfere, but he does monitor and consult relative to task expectations.



For each grade level, there is an informally designated leader and the two principals use these teachers as communication links with other teachers at the various grade levels. However, there is a considerable amount of direct contact between the principals and the teachers. Despite this delegation of responsibility, the principal is the instructional leader in the school.

Change. Two major changes are being implemented at Willow School, and both of these changes are mandated by the district. The first of these is a behavior management program and the second innovation is the new math program. The principal is the primary facilitator for both programs.

Change = Math and Behavior Management Program

Interventions. The principal has a good working knowledge of his faculty. Through classroom observations, discussions with individual teachers, and from other facilitators in the building (assistant principal and informal grade leaders) he knows how teachers teach in their classrooms. The principal does more than collect information about the classroom performance of his teachers. He acts on it, usually in a supportive way.

Unit of Change: Whole School

GPC 3: Consultation & Reinforcement

Arrangements for the in-school math consultant and encouragement for teacher attendance at the district-sponsored math workshops are two ways in which the principal encourages adoption of the math innovation. In another instance, he and the assistant principal investigated a complaint by the teachers regarding the new math program, discovered they were correct, and contacted the district personnel responsible for remedying the problem. In addition, the principal is providing the in-house weekly staff training for the behavior management program.

GPC 1: Supportive Organizational Arrangements

GPC 4: Monitoring Program

GPC 2: Training

Summary

Willow School has an identifiable leader, the principal, who uses the available school resources to facilitate the change process. Among these resources are the key school personnel. He structures the responsibilities for the instructional program so that adequate monitoring and support is available. He uses the critical game plan components in intervening with the staff to facilitate change.

George Washington Carver High School

George Washington Carver High School (GWCHS) is an inner city comprehensive high school with a student population of 2,500 and a faculty of 135. Although the faculty is racially balanced, the student population is 99% black with almost 50% being poor. There is a high mobility rate among the students; however, the staff and the principal have remained relatively stable over the last decade. The school has experienced frequent demographic changes during the last ten years, and it is this phenomenon of community change which underscores the continuing commitment of GWCHS to school improvement.

Facilitator Pattern. The organization flow chart at GWCHS shows the chain of command and the delegation of

responsibilities. Administrative staff and teachers report that there are procedures which all staff follow in both the routine functions and the resolution of problems.

Primary CF = P
+
Second CFs = AP AP
+
Dept Heads = DH
TEAM
Ts

The assistant principals share in the instructional leadership with the principal, while department heads have responsibility for the curriculum planning, budget allocations, and teacher supervision in their respective departments. The leadership team which includes the assistant principals and the department heads meets in regularly scheduled cabinet meetings. However, the school leader is the principal and the assistant principals are second in command.

Change = Academic Achievement and School Beautification Project

Change. Changes at the building level at GWCHS are in response to meeting the needs of the changing student population. The primary goal of the principal at GWCHS is to improve the academic achievement of the students. The specific objective is to decrease the number of students who score below the 50% on standardized achievement tests. This change effort is viewed as an all-school effort, in which all faculty members and administrative leaders share a responsible part.

Unit of Change = Whole School Through DH & Teacher Groups

A tandem effort in the change process to improve academic achievement is the school beautification project, begun several years ago by the principal in response to the poor image of GWCHS, both within and outside the school. As a result of the continued summer efforts of a small cadre of students, faculty and the principals, the halls of the school are dominated by fifteen-foot murals. These murals have become a focal point of the change effort: they serve to motivate staff and students alike for the school beautification project and are the beginning of the principal's long-range vision for the school.

Interventions. There is an underlying structure to the way in which this principal goes about the business of effectively leading the school. Several components are readily apparent in his game plan to accomplish his goal. Among the more salient features of his plan for school improvements are the establishment of policies and procedures, ad hoc change teams, the articulation of goals, and the development and implementation of strategies to accomplish these goals.

Principal Style

The principal's primary goal is to improve the academic achievement of students. He sees this as a long, slow building process; however, he understands that increments of progress must be made each year to actualize his goals. It is his underlying belief which guides the plan. He articulates this belief by stating that students are the school's best asset, and that all students have

the potential to achieve. He adopts a pragmatic approach: the principal states the yearly goal and develops a two-pronged plan. First, he examines the available resources and accentuates the school's strengths in the improvement process. Second, he establishes specific goals which are reachable and attainable. His vision for school improvement becomes a series of utilitarian strategies with defined objectives which can be communicated to staff and students.

GPC 1: Policies & Plans

GPC 1: Communicates Expectations

What are some of the components which he uses in accomplishing his goal? He creates an ad hoc change team comprised of teachers, assistant principals, and other staff members. He selectively marshalls his resources, and he ignores the organizational plan in the implementation process.

GPC 1: Staffing

In the typical day-to-day occurrences in the school, formal procedures are known and followed by both administrators and teachers. Overall, the principal adheres to both district and school policy for managing the school; however, he handles the change process differently. When the principal intends to implement a change, he selectively enlists the support of others. He chooses a small cadre of staff and consults with this group during the change process. It is as if the formal procedures are in place for institutionalized events, but the change process requires a different approach -- the creation of an ad hoc change team.

GPC 1: Delegating and Appointing Roles

GPC 3: Consulting With Staff

Summary. The principal at GWCHS is a contradiction, for he is the push behind the change effort in the school and uses creative insubordination when policy prevents the actualization of his vision for the school. But he is a leader who also considers school policy. The salient characteristic which makes some sense of the contradictions is the principal's vision for the school. He believes that academic achievement is a possibility for all students. It is his plan to accomplish his goals.

It is not possible to describe GWCHS without strong reference to the principal. His role is perhaps best explained when considering the students. They are the focal point of the school and the principal is their primary advocate in that the changes he implements and initiates are for the benefit of students. It is this belief in the role and function of schools which appears to define the principal.

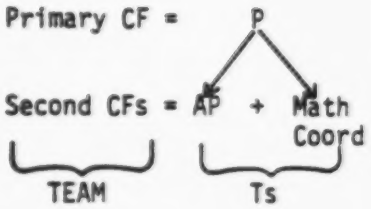
Principal Role

Mimosa

Mimosa Elementary School is located in the southeastern coastal region of the United State in a

large, diverse school district, but serves a primarily middle-class non-minority population. The twenty-six year old building which houses self-contained classrooms and a special education resource room is staffed by 28 faculty members who are veteran teachers. The 550 students are mostly non-minority, middle-class children: approximately 73% of the students are white, 22% are black, 4% Hispanic, and a few are Asian. None of the students are eligible for Title 1 funding; however, a small percentage of students participate in the federally subsidized lunch program. The student population at Mimosa is relatively stable. Students' achievement scores on standardized tests are above the national norm.

Facilitator Pattern. The principal describes herself as a task-oriented manager who delegates responsibilities to the other leadership team members. She monitors the progress of the team on a frequent basis. The team, which is comprised of the principal, assistant principal, and math coordinator, is highly interactive, so it is difficult to assess the origin of ideas. However, it is apparent that the principal is the team leader and that the other team members look to her for advice, guidance, and approval.



The delegation of tasks is often accomplished through discussion and consensus; however, the principal does not delegate responsibilities unless the task is fully discussed and clearly understood. The staff reports that the principal's expectations are clearly understood and that she knows what occurs in the building at all levels.

Change. Change in the Mimosa Elementary School has been mandated by the district office. The unified math curriculum is an example of a mandated change which the school has adopted. The procedures to implement this curriculum, however, have been adapted to meet the needs of the school. It is the process which the Mimosa school uses in implementing the unified math program which demonstrates the way in which change occurs in the school.

Change = Math Program

Unit of Change: Whole School

Interventions. A description which highlights the change process is feedback. The leadership team, strongly influenced by the principal, sought feedback about the degree of program implementation from the staff. They adapted the implementation process to facilitate adoption of the unified math curriculum. They accomplished this through several strategies. First, the principal discovered that the teachers could not implement all program components during the first year. Next, the principal found that the supplemental materials were not used in the program. Through conversations with other members of the team and teachers, she uncovered some organizational problems with the materials. The

GPC 4: Monitoring

GPC 1: Providing Resources

utilization of parent volunteers and a permanent substitute teacher solved this aspect of the problem. Throughout the process of solving the problem of low usage of the supplemental kits in the classroom, the principal continually sought feedback from the other team leaders and teachers. She sought to account for the major concerns of the teaching staff in applying remedies to the problem.

GPC 1: Staffing
GPC 3: Problem Solving & Consultation with Teachers
GPC 4: Monitoring Process
GPC 2: Retraining

Summary. The principal is the push behind the change effort in Mimosa. She is viewed by staff -- administrators and teachers -- as knowing what happens in the school. She sees herself as the instructional leader who relies on a leadership team to work with her in facilitating the school program. The principal expressed no grand schemes for school reform. Rather, she attempted to implement district-mandated programs, but adapted the process of implementation to meet the unique needs of her school. In addition, she saw the facilitation of change as a process which required sensitivity to the needs of the instructional staff for successful and long-term implementation. Her efforts in the change process at Mimosa became a sequence of utilitarian strategies to accomplish the goal of eventually institutionalizing a curriculum innovation.

Principal Role

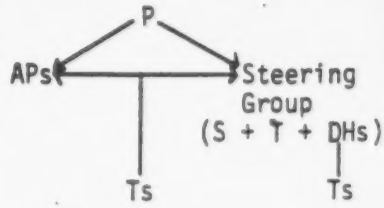
Northside High School

Northside High School is a thirty-year-old school designed originally for a rural population which is now growing at the rate of 200 students a year. The teacher group is a new, younger faculty directed by a principal who has been at the school for two years. The community which Northside serves is a middle-class suburban community of transplanted professional families who are relatively uninvolved in the school.

Facilitator Pattern. The principal has adopted the participatory management program espoused by the school district. The three assistant principals serve as the second change facilitators, and there is a rotating group of students and teacher representatives who serve on advisory committees. However, it is clear that the principal is the school leader who assumes the role of the primary change facilitator. He is supported by a steering committee of teachers and an advisory council of both teachers and students.

Primary CF = P

Second CFs = AP—AP—AP



Change. The change at Northside is the rapid change in the student population. Projected enrollment figures for the district indicate that this school will gain as many as 200 students yearly for the next five years. The district has set as a school priority the development of a structured response system to this increase in students.

Change: Rapid Increase in Student Numbers

One suggestion for this is the use of a participatory management system that would allow for better communication between teachers and administration. The principal not only supports but implements this idea.

Participatory management has taken the form of a student/teacher advisory group and establishing school-home communication. The purpose of this change is to ensure that the academic achievement of the students remains constant despite the continual change in the student body.

Unit of Change: Students, Teachers, Departments, Parents

Interventions. The principal has used both the participatory management and school-community relations as a springboard to effect school change and to maintain academic achievement. He relies on the input from both the faculty steering committee and the student advisory committee to make decisions. He then works with both of these groups in conjunction with the other members of the change facilitation team -- the assistant principals in planning.

GPC 1: Planning

In conferring with teachers, he writes an evaluation of their performance and then asks the teacher to write an evaluation of his principal behaviors. Both evaluations are then used in structuring professional goals and objectives for the teacher and the principal -- all of which hinge on student growth and achievement. Further, he supports teachers' concerns about the change by allowing them access to himself or others in roles of responsibility to express problems. He will discuss and develop a plan for these problems with the steering group and communicate the result to the school or individual rapidly. This has been a significant help in gaining teacher trust in the process.

GPC 4: Monitoring

GPC 3: Listening to Concerns; Consultation with Teachers

GPC 1: Renewal of Plan; Communicates New Plan

Summary. Change at Northside requires almost daily replanning and problem solving. This principal involves some of the individuals the change is affecting most -- teachers and students -- in planning the school's response.

CHANGE IN ELEMENTARY AND SECONDARY SCHOOLS: CONCLUDING COMMENTS

This document provides an overview of many of the key research findings which the RIP team has developed from their studies of change in schools during the last decade of research. Schools successful in implementing change (whether elementary or high schools), had a set of identifiable strategies

targetting the improvement process. A primary change facilitator assumed the major role and responsibility for implementing the innovation. A major part of this person's responsibility was developing a plan of action and marshalling the school's resources to carry out the plan. Through the formation of a change facilitation team, the plan was put into action. This leadership team was comprised of a second change facilitator and unit leaders who carried out the game plan for implementing the innovation. The primary change facilitator acted as the overseer and monitored the system so that the necessary restructuring of the plan could occur. In both elementary and high schools, the successful implementation of an innovation included a cyclical process wherein the primary change facilitator devised a plan, developed strategies to implement the plan, monitored the system's response to the actions surrounding the change effort, and revised the game plan when necessary.

The case study examples illustrate some of these findings. While the case studies include a number of different kinds of innovations, in each case there was a primary facilitator and other facilitators acting to structure and manage the change. These facilitators had slightly different roles depending on whether it was an elementary or secondary school and what the innovation or change was. In Willow School, an elementary school, the second CF was the assistant principal who took on the role of working more closely with teachers to implement the math program. Another important facilitator in that school, however, was the grade level leader, who worked intimately with the second CF to solve problems and consult with other teachers about the innovation. At Northside High School, the school management team worked together to develop a strategy for dealing with the change, an ongoing growth in student population. Implementing that strategy was the role of department heads and assistant

principals who worked within their own groups, or areas of responsibility, to help teachers adjust and accommodate that change. It is difficult to say within this system whether each of these are second CFs for their areas or whether it is the team as a whole that is the second CF. Each, however, worked to fulfill this role in terms of the actions they took with teachers.

Each school cited in the case studies provides examples of the interventions taken by facilitators in implementing the changes they were working with. Regardless of level, elementary or high school, change, or the facilitators involved, comparable kinds of actions were engaged in. Further, these actions fit the game plan components described earlier. While in each school, interventions directed to supportive organizational arrangements, training, and monitoring were present, the consultation and reinforcement interventions proved to be especially important to the success of change in each case. These GPC 3 interventions were typically engaged in by all facilitators, though second CFs in particular had an important role in this area. In George Washington Carver High School, the cadre of staff selected by the principal as an ad hoc change team worked individually and in small groups with teachers to enlist their aid for the school beautification program. In Mimosa Elementary School, the principal consulted with the staff about the usefulness of their materials in order to improve the situation. Both of these actions contributed to gaining staff support for the change.

As these case studies and our research illustrate, the actual process of change and the role and function of the various "actors" in change is more similar than dissimilar in elementary and high schools when it is accomplished in an effective manner. There are, of course, some differences. The size differential between these two schools alters the structure of the change facilitation teams. The departmentalization in the high school typically has

a unit leader in the department head role. This unit leader function often must be created or appointed in the elementary school. The larger size of the high schools often requires more active change facilitators and the construction of more discrete, manageable units in which change may occur.

Finally, this size differential may influence the role of the school principal. At both levels, effective principals must sanction and support the change effort, and they will typically be active and visible facilitators. In larger schools (and many elementary schools are larger than high schools) the principal will likely have more people involved in the leadership team and delegate more responsibilities. Because departments in high schools have a certain degree of autonomy not accorded to units within an elementary school, changes may be initiated and facilitated at that level without direct principal involvement. In elementary schools, the effective principal is more likely to be involved in any and all changes.

Effective change at either the elementary or the high school is guided by several principles.

1. It requires a leader who sanctions and supports the change.
2. It requires the use of a team of change facilitators.
3. It requires a series of sequential strategies planned around the improvement process.
4. It requires monitoring of the system's responses to the implementation strategies.
5. It requires corrective action if and when the implementation plan strays off target.

Accomplishing change, especially complex change in schools, is no easy task.

Research in schools where change has been accomplished successfully suggests that if the above principles are considered, the process of change is more likely to have effective results.

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Teachers' Contributions to School Improvement: Reflections on Fifteen Years of Research

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Teachers' Contributions to School Improvement: Reflections on Fifteen Years of Research

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For more than a decade the staff of the Research on Improvement project at the Research and Development Center for Teacher Education (R&DCTE) has been intensively engaged in the study of the change process in school settings throughout the United States. It goes without saying that the process of change in schools cannot be studied in a meaningful way without attending to the role of teachers. The purpose of this paper is to present the findings and insights we have derived from our research that relates to the role of teachers in change. More specifically, the paper will address the issues of typical and possible teacher roles in the development, initiation and continuation of change.

Typical Roles of Teachers in Change

"I Don't Know" Syndrome

As one part of our research efforts we regularly assessed the way in which teachers were actually involved in the use of a particular innovation. To do this a focused interview format was used that permitted the determination of a particular Level of Use for each teacher (Hall, Loucks, Rutherford & Newlove, 1975; Loucks, Newlove and Hall, 1976). One question in this interview asks the teacher to project forward and tell how they see themselves being involved with the innovation in the future (or next year). The total number of Level of Use interviews we have conducted is estimated to be in the 1,000 range. Out of all of these interviews one answer frequently given in response to the question about future use is "I don't know, the (principal, supervisor, superintendent, or some other superordinate) has not yet told us." In some cases the response

is stated as a known, "The (name of superordinate) has said we will - - - ." In either case the message being conveyed by the teachers is that they believe their future in relation to the innovation is determined not by them, but by some superordinate. Many times they don't even know which superordinate or administrative level is responsible for making the decision about the innovation (Rutherford & Huling-Austin, 1984; Rutherford & Murphy, 1985).

This Too Shall Pass

Out of the many interviews and other data collection efforts directed by the R&DCTE researchers there has emerged another common teacher reaction to their involvement in the particular change. Teachers are reluctant to take any change too seriously or to invest in it too much energy for they know from experience that many innovations fade into oblivion after a few years or the importance of the innovation is diminished as other innovations are introduced.

This type of teacher reaction is certainly justified given the reality of how change is often handled by schools and school districts. It was not at all unusual to find teachers being asked to implement more than one innovation at the same time. Additionally, they might expect that each year they would be asked to implement at least one more change. If findings from research on change has taught us anything it is that teachers (or other persons for that matter) just cannot effectively implement these "rapid fire" innovations, particularly if they are at all complex (Rutherford, Hall & Huling, 1983; Hall, 1975; Hall, 1979). Changing an organization is a process that requires not just months but years to accomplish.

Given this nonsensical approach to change in schools it was understandable that teachers frequently did not treat the changes seriously. To maintain emotional and professional equilibrium it was necessary that they allocate their time and energies carefully and not overcommit to every passing fad. Thus, they often took the position that the change being promoted at any given

time would soon pass as many others before it had and, in fact, they were usually correct.

Why Change?

This was a question frequently asked by teachers who were being asked to make a change. As might be expected, one group asking this question was those teachers who were not accepting of the innovation. Until a year ago I would have said these were the resistors of change. However, a paper by Menlo (1985) has caused me to rethink that position. He holds that humans actually seek change, but what they resist is loss. If they perceive that by making the change they might suffer losses of a personal or material nature then they will resist the loss. Whether it be resistance to loss or resistance to change, there are those teachers who question change because they do not wish to participate in it.

There is another group of teachers who ask the question because they really wish to understand "why the change." A sixth-grade teacher is asked to implement a new criterion-referenced math program. Every year for the past 5 years her students have scored an average of two years above the district average on standardized math achievement tests. This teacher wants to know what is wrong with her math instruction that requires that she change to a new program. High School A is consistently ranked as one of the best in the state and has even earned national recognition. When the teachers are asked to implement a new instructional process patterned after Madeline Hunter's model, they ask what is wrong with their instruction now and how will the new model improve it. It would be encouraging if we could report that the group of teachers who do this kind of frank and professional questioning was quite sizeable. Unfortunately, it was not as large as the resistor group or maybe it just was not as vocal.

Let's Fake It

In this group of teachers are some who do not fit into any of the previously described groups, but many also belong to one (or more) of the above groups. The teachers in this group try to make it appear that they are doing what the innovation and its facilitators expect them to do. This does not mean that they are weak or dishonest teachers. Indeed some of the best teachers may be in this group. Teachers who are willing to try new ideas and programs that might improve their teaching and who want to do what is expected of them may find that the demands of multiple innovations prevent them from executing each innovation as well as they would like. Thus, they try to do or make do as best they can. Perhaps it is too harsh to say these teachers are faking it, but to be sure, their use of the innovation is less than genuine.

A subgroup within this group is characterized by their propensity for fitting anything new into an existing mold. They will claim there is nothing really new in this innovation; a new name has been given to something they have done for years (or used to do years ago). Not only do they claim this but they actually reshape the innovation so that as much as possible it does fit with what they have been doing all along. In this way they claim to be using the innovation when actually they are not,or only minimally.

There remains one small but fiesty group that is quite candid about their cover-up. For example, one teacher had her classroom fully adorned with all the visible trappings of the innovation. When asked about her use of the innovation she said she did not use it at all; she had simply prepared her room to make others believe she did. Others were not so clever in their deception, but they would admit to the researchers that they did only what was necessary to make it appear they were using the innovation.

The Sad Truth

From this brief and selected information one might draw many conclusions about the current and typical role of teachers in the process of educational change. The one conclusion that was most vivid to the researchers, both from data (Rutherford & Murphy, 1985) and subjective impression was that teachers are far more likely to be the recipients than the initiators of any change that impacts more than their own classrooms. When recipients of change had little or no input in the change process, and when change was thrust upon them with little forewarning, some resisted and some reacted positively, but the majority responded with a kind of passive acceptance that this is just the way things are done in schools.

Because change is managed in this way, and because teachers respond as they do (in a rational, logical way), the cost and loss for American education has been massive. Billions of dollars have been spent developing, disseminating and implementing programs that have vanished without a trace. In most cases it was never known whether the programs were effective or ineffective because they were implemented so poorly there was never a fair assessment of the innovation before it was set aside for another new program.

But there has been more than a loss of money. The improvement of schools and schooling, which is the ultimate objective of educational change, has actually been impaired. As teachers have been faced with wave after wave of changes they have developed the response patterns described above. For those teachers who have experienced this for some years it is increasingly difficult for them to take seriously any new program that is proposed. It is a credit to teachers that they try as they do to be responsive to each innovation.

Not only has teacher motivation and excitement for change been blunted, the great amounts of time and energy the multiple changes have required of them has destabilized their movement toward true teaching improvement. Our research

has established that as teachers first confront an innovation they usually have high personal concerns and concerns about how to manage the change (Hall & Rutherford, 1976; Hall, 1976). Although these concerns are typical when faced with something new, they do direct the teacher away from concerns that are more critical to teacher effectiveness, concerns about how to improve student learning.

Our research has also shown that when teachers attempt to use a new program it usually takes quite a while--perhaps several years--before they can use it effectively (Hall, 1978; Loucks & Hall, 1979; Hall, 1979). This means that during this time the teacher's effectiveness is reduced, and for a teacher who has to engage in one innovation after another, it means a continued reduction of effectiveness.

A third and often overlooked negative consequence of the typical change process is that it causes educators and the public to believe that meaningful educational improvement is underway in our schools when it isn't. A listing and description of all the programs they have recently introduced is one way schools and districts often use to show constituents what good things they are doing. This substitution of activity for substance is both deceptive and counterproductive for it keeps us from seeking true and lasting solutions to our educational problems.

What has been described up to this point is the current state of the scene relative to change and teachers' involvement. But the situation does not have to be as it is. Teachers need not be just passive recipients of change, they can be active initiators. And change can be a positive force for school improvement rather than a destabilizing force.

Some Facts About Teachers and Change

Before moving to a discussion of how to improve the change process it is of interest to at least note some of the things our research team has learned over the years about teachers and change. More than anything this information dispells some oft stated beliefs.

For many years as we studied change in schools across the nation we collected from individual teachers data such as their age, their gender, years of teaching experience, years of experience at that particular school and number of years of education completed. Never were we able to establish any kind of consistent relationship between these variables and outcome variables such as teachers' concerns about the particular change being implemented or their use of the innovation (George & Rutherford, 1980).

Older teachers were no more resistant to or accepting of change than were younger teachers. Neither did years of teaching experience or teacher gender predict teacher response to change. The nature of the innovation, the way the implementation process was handled and the school's previous implementation history were more influential than any of these demographic variables on teachers' concerns about and uses of an innovation.

Since we studied both elementary and secondary schools it is possible to draw some comparisons between those two levels (Hall, et. al., 1986). Admittedly these comparisons are more subjective than those just presented, but because of the numbers of schools and teachers involved in our research, and because the findings were subjected to the interpretation of our entire research team, we feel they are sound. Secondary and elementary teachers did not differ markedly in their acceptance of or resistance to change. High school teachers were more likely to seek information about the purpose, intent and rationale for a particular change. This was due in part to the fact that many of the changes they were asked to implement were directed at the

curriculum of their particular department and since they tended to believe themselves highly knowledgeable in their own teaching field, they were more apt to give the innovation a careful look. Elementary teachers, on the other hand, were asked to make changes in the many areas in which they teach, and they did not always consider themselves expert in every area. However, because secondary teachers tended to consider changes more carefully did not mean they were resistant to change. Data we collected does not support that contention (Rutherford & Murphy, 1985).

Another factor that is often discussed in connection with teachers and change is teacher ownership of the change (Fullan, 1982). It is commonly held that teachers will participate more eagerly in change if they are actively involved in the development or selection of the innovation. While there is some evidence this may be true (Little, 1981; Fullan, 1982), it is not possible to develop widespread ownership of innovations that are directed at an entire school district or even a single school if it is a large one. And many innovations are intended to be district wide or to affect one or more schools.

When the target population of teachers is so large it just is not feasible to involve every teacher extensively enough to develop within each one a sense of ownership. Instead a representative group of teachers may be selected for in-depth participation in the innovation development process, or school leaders may seek teacher input through some type of survey or other feedback mechanism. While these approaches have their value they definitely do not develop a sense of ownership in those who not were meaningfully involved in the development or implementation of an innovation. In fact, intensive involvement in innovation development does not ensure ownership. More than one teacher who served on a committee to develop a new program reported to our researchers that they had become disenchanted with the work of the committee, usually because actions

were taken with which they disagreed. Consequently, they opposed the innovation and attempted to convince fellow teachers of its unworthiness.

The point of this discussion is that developing ownership, or establishing a bottom-up change process, is very difficult and very time consuming when large numbers of people are the target of the change. Absence of teacher ownership will be an abiding problem unless the district-wide or school-wide approach to school change that has typically been employed for the past two decades is modified. It should be noted, however, that just because a change comes from the top down it is not necessarily viewed negatively by teachers (Rutherford and Murphy, 1985).

Improving the Change Process

It is not the purpose of this paper to explore the merits and disadvantages of the top-down change process frequently used in educational settings. Instead I will first discuss ways to improve that process and later will discuss a viable alternative to the top-down approach.

Acceptance in Lieu of Ownership

Teachers usually represent a vital link in the change process (Vandenberghe, 1984). If they fail to use an innovation, or if they use it poorly, then there will be no productive outcomes. Thus it is absolutely essential that teachers be receptive to the change. The point has already been made that when large numbers of participants are involved, developing universal teacher ownership is not possible. It is possible, however, to create among the teaching force a large number of effective users.

This can be accomplished through the use of a systematic plan for facilitating the change that gives teachers priority consideration. The Concerns-Based Adoption Model (CBAM) designed at the R&DCTE offers just such a plan (Hall, Wallace & Dossett, 1973; Hord & Rutherford, 1980).

An essential first step in the CBAM is the establishment of a Game Plan (Hall & Hord, 1984; Hord & Rutherford, 1980) which lays out the strategies and tactics to be employed when implementing the change. This plan must recognize that complex change is a process that requires time. Complex innovations will likely require two or more years and then only if there is a strong staff development program to support the teachers. During this time teachers should not be expected to implement any other mandated innovations.

Included in the design of the game plan should be strategies and tactics that make it clear that the innovation is important, it will be an enduring change and that effective implementation is expected. These steps are necessary if we want to convince teachers that this innovation will not pass away and that faking its use will not be acceptable. Establishing this kind of clarity and certainty about the innovation is not intended to force or pressure teachers into innovation use. Rather it is intended to sweep away any ambiguity about the expectations of the school leaders regarding the innovation. The game plan, and its execution, should make it easy and comfortable for teachers to believe in and commit to the innovation without concern that it is just another hoax.

Setting forth the expectations for effective use of the innovation is an important feature of the game plan. But if teachers are expected to use the innovation effectively then there must be specification and clarification of "effective use." To accomplish this the CBAM recommends the determination of the Innovation Configuration for each innovation before it is introduced into the schools (Heck, Stiegelbauer, Hall & Loucks, 1981). During our years of research on school change it was rare to find a situation where all parties, developers, facilitators and teachers (users) had a clear and common understanding of exactly what was required or expected of users of the

innovation. In the absence of any common agreement of what the user was to do and how they were to do it, an innovation often became a variety of innovations as teachers applied their own interpretations to the requirements for use.

When innovation developers or facilitators first introduce an innovation to teachers it is not at all uncommon for them to tell the teachers something to this effect: "Of course, we expect you will adjust the program to fit your own classroom situation." Berman and McLaughlin (1978) have referred to this process as one of mutual adaptation. From their research they found that usually teachers made some adaptations in their practice in response to the innovation while adjusting the innovation somewhat to fit their practice.

While the practice of mutual adaptation may appear to be reasonable, it can be detrimental to the success of the innovation, and it can be frustrating to teachers when it operates without guidelines. Use of the Innovation Configuration (IC) component of the CBAM can diminish if not eliminate both of the problems associated with mutual adaptation of an innovation. IC requires that before implementation begins the developers and facilitators make precise identification of all components or expectations associated with the innovation. For example, a criterion math program may include a set of sequential objectives, supplemental teaching materials, a testing program, a record-keeping system and an instructional program that calls for individualization based on test outcomes.

Once all components of the innovation have been identified, a next step in the IC process is to decide which ones are essential to the success of the innovation. These are the components that must be used. Along with this, the latitude teachers have, if any, in adapting these components must be established. For most innovations the developers believe there are certain things that must be done, and in prescribed ways, or the intent of the

innovation has been violated. These are the essential components. In addition to the essential components there may be those that are desirable but not essential, and still others that are nice, but clearly optional.

Once the IC has been developed facilitators and teachers can have a common and consistent understanding of innovation expectations. This reduces teacher frustration or indifference that results from ambiguity about what is expected of them. It also makes it possible to know if those things users must do to make innovation succeed are indeed done, not just faked. More important, it can assist facilitators in determining the kinds of assistance teachers will need when implementing the change.

Development of the Game Plan and Innovation Configuration should occur in advance of the introduction of the innovation. As the innovation is introduced and the implementation plan executed, careful attention must be given to the individual teachers. In response to innovation implementation teachers vary indiyidually just as students in any given classroom vary. They have different kinds of concerns about the innovation, and their actual use of it will vary. Vandenberghe (1984) and others (Fullan, 1982) have found that teachers view changes in terms of the consequences for themselves. If they perceive the innovation to be practical and of potential value, then they are more likely to give greater attention to its use. Therefore, the Game Plan and Innovation Configuration should relate the innovation to the work and needs of teachers in such a way that teachers view the change as being practical and of value.

The CBAM offers some easy-to-use procedures for assessing the Stages of Concern (Hall, George & Rutherford, 1977) teachers have about their involvement with an innovation and their Level of Use of the innovation (Loucks, Newlove & Hall, 1976). With this diagnostic information about individual teacher concerns and use of the innovation, facilitators can individualize the support

and assistance provided for teachers. When teachers do have this kind of support and assistance it enhances their acceptance of the innovation and ultimately it promotes the effectiveness of the innovation. Additionally this personalized approach to facilitation helps create a feeling in a school or district that teachers are viewed not just as passive recipients of change but as important individuals who are the essential ingredient in the change process. When teachers are made to feel an important part of the change process they are much more likely to be accepting of the innovation and willing to use it effectively.

A Different Approach

Change does not have to come from the top down and teachers do not have to be passive recipients of change. They can be developers, initiators and implementers of change. For this to happen several conditions need to exist. First, policy makers and educational leaders must accept the fact that change does not have to occur at the district or school level or among large groups of teachers to be meaningful. Second, school leaders must promote and sanction change in individual classrooms and among small groups. Of course, changes at these levels have always occurred in schools and are occurring now but they are not often actively promoted or sanctioned by the leadership of the school. As a consequence the changes that are made by individuals and small groups many times are inconsequential or they are short lived.

As a research team our most impressive demonstration of how teachers can be instrumental in change came during our two years of research on team teaching (Rutherford, 1975; Rutherford, 1979; Hall & Rutherford, 1976; Rutherford, 1977). We saw many teams where the teachers were involved in change virtually on a daily basis--change they had initiated. These teachers were constantly discussing and assessing the teaching-learning situation for

the students they served. On the basis of this collaboration they would make those adjustments they felt were necessary to better serve the learner.

The kinds of changes made by the teams were not unlike those changes typically mandated for teachers by superordinates at the district or school level. Changes made by the teams included the following: changes in curriculum; changes in the way instruction was delivered; different approaches to classroom management; changes in record keeping; changes in administrative and management procedures; changes in schedule; and changes in the assignment of themselves to particular teaching tasks. Clearly these teachers were neither resistant to nor fearful of the changes they were making. Furthermore, the changes they made were enduring. Once they initiated a change, they were committed to it and persisted in it until they believed they had an even better way of doing it.

It must be emphasized that these teaching teams were not making meaningless changes or changes intended to make their professional lives easier. On the contrary, team members spent more time in planning and preparing for teaching than many solitary teachers. This was due in part to the time spent collaborating and in part to a heightened sense of professional responsibility. Teaching teams would frequently arrange it so that one of their members could attend a professional meeting or conference or visit in another school where something of interest to the team was happening. This member would then share with the entire team what he or she had learned, and how it might be used by the team to improve their work. Team members were truly intent on becoming better and better teachers.

In addition to changes made within a team, it was not unusual for two or more teams to collaborate in the development and initiation of change. We noted this happening most in the elementary schools, but it also occurred in

secondary schools between departments. When change is initiated by teachers, how extensively and effectively it is disseminated to other teachers is determined to a great extent by the degree of support and sanction the leadership of the school gives to the change (Huling-Austin, Stiegelbauer & Muscella, 1985; Rutherford, Hord, Huling-Austin & Hall, 1982; Hall, Rutherford, Hord & Huling-Austin, 1984).

What we learned from our study of team teaching, and what others have learned since that time (Little, 1981; Fullan, 1982), is that teachers can and will be effective agents for change when conditions are right. Consequently, we would recommend that school leaders give much greater emphasis to the promotion and support of teachers as change agents. Certainly the cost is less than all the failed efforts to implement widespread mandated changes and the potential for enduring improvement of the teaching and learning process in schools is greater.

Concluding Comments

From years of research in public schools it is evident that school leaders believe (as evidenced by their practice) that the best way to bring about school improvement is through changes mandated by superordinates and directed at entire districts or schools or some other large unit within the district. Unfortunately, the available evidence indicates that this approach to change has not been very successful. The enduring improvements that have occurred in American public schools as a result of the myriad of changes that have been introduced during the past 25-30 years are hard to find. Much money, much time and much professional effort has left a very paltry legacy.

One major reason for the failure or minimal success of many change efforts is the fact that teachers have been treated as passive recipients of change. Change after change has been introduced into schools with little or no serious

consultation with all teachers involved, and with little preparation, training and support for the changes. In spite of this, it has been assumed that teachers would know exactly what they were supposed to do and would do it.

This paper suggests two ways this serious flaw in current change practices might be eliminated. The first calls for an improvement in these change practices, an improvement that acknowledges the critical importance of teachers in the process and treats them accordingly. To do this it is recommended that the Concerns-Based Adoption Model be used to guide the change process. This model gives highest priority to the individual teacher and his/her needs in relation to any change effort.

A second way to improve the change process is to establish conditions within the organization that encourage teachers to become the initiators and facilitators of change. When this occurs teachers have a commitment and excitement to change that eliminates many of the difficulties associated with the top-down approach to change. If this is to occur, school leaders must first encourage teachers individually and collectively to develop their own changes. This done, the leaders must sanction their efforts and provide the support needed to maintain the change. Finally, if it is desired that the change be disseminated to other teachers, it must be facilitated by someone(s) who is skilled as a facilitator, which means they must be trained to serve in this role. School leaders, even good ones, are not automatically qualified as effective change facilitators.

Teachers are the essential element in change regardless of the process that is followed. Unless their importance is recognized and respected, change in American schools will remain more fiction than fact.

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INSTITUTIONALIZATION OF INNOVATIONS:

KNOWING WHEN YOU HAVE IT AND WHEN YOU DON'T

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INSTITUTIONALIZATION OF INNOVATIONS: KNOWING WHEN INDIVIDUALS HAVE IT AND WHEN THEY DON'T

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It is no secret that would-be educational reformers for two decades have been fraught with frustration. A plethora of educational innovations have been delivered to the nation's schools, with generally disappointing results in terms of their outcomes for improving affective, behavioral and cognitive student gains. One result has been closer scrutiny of proposed innovations and attention to better understanding school change processes, and to formulating strategies for successful innovation implementation.

For more than a decade, we and our colleagues have studied schools in their efforts to establish new school practices, practices which hopefully would lead to greater gains for students. One of the important results of our studies has been the identification and verification of a set of vectors that can be employed to diagnose, monitor and guide the change process. In this paper, we present the three vectors as a set of benchmarks for describing innovation use; importantly, we explain how they can be used also for determining if an innovation has become established as regular practice or "institutionalized."

In the past, we have not had the means for determining if, or how, individual users of an innovation have integrated it into their regular classroom practice, and this dilemma has been frequently expressed in the literature. Thus, we propose in this paper, a definition of institutionalization which addresses this problem. As a prelude, however, we will briefly review the process of school change, empha-

sizing its subprocesses: assessment, adoption, initiation, implementation and institutionalization. We will also provide an overview of the literature, in search of insights about institutionalization, giving particular attention to definitions of this phase of the change process. Following that, we propose an operational schema for defining and assessing institutionalization. We then conclude with implications for policy determination, intervention and evaluation.

Change: Five Subprocesses

Although the change process in operation cannot be explicitly portrayed as a linear set of discrete phases, for purposes of practical examination and for discussion of the relationships of institutionalization within the change process, it is convenient to do so. The phases do indeed follow in a sequence, but they are cyclical and interactive, and one phase does not necessarily end before the next begins.

Assess Present Practice

A new program, process, or product--an innovation--may come to a school by way of a bottom-up strategy, that is, several teachers or a whole faculty work together to generate the new practice. Or, it may arrive as a top-down mandate. In either case, the innovation's arrival results from a review of the school's (or larger unit's) current performance. Relevant data may be broadly collected and analyzed to identify strengths and weaknesses in the school's or district's academic and non-academic programs and procedures; or, in a more focused way, information may be sought only for a particular purpose. Whether information gathering is broad or narrow, whether staff are widely or

modestly involved, a needs assessment is made and an area(s) in need of improvement is identified.

Adopt a Response

A second part of the change process focuses on the selection or development of a response to the identified need. The response is often accompanied by high expectations that it will "cure" the identified weakness. Many schools and districts currently are investing a great deal of resources in the development of new curricula and other innovations, in order to accommodate the needs and particularities of the given school or district context. Conversely, many schools and districts are electing an innovation that is already produced and packaged, albeit by commercial publisher, NDN, other schools, districts, etc. In either case, an innovation is selected and a decision is made to adopt it for use. We might just note here, that this rational process is not always employed; in some circumstances innovations are adopted because they are "good" and then a rationale is developed for why they are needed.

Initiation

In most school change and improvement efforts, a great deal of commitment and enthusiasm--on the part of some individuals--accompanies the introduction of the new practice. This fervor seems to accompany the innovation as it is brought into the system, and is the cause de celebre. Not infrequently, the innovation is launched by the organization or system's Chief Officer announcing its arrival and extolling its virtues and goodness. The intended users are exhorted to give the new practice a trial and efforts to develop user commitment are stimulated. The organization is mobilized to accommodate and promote

the innovation across the user system. The initiation phase has been analyzed, subdivided, discussed and abundantly described in the change literature. There appear to be available many more examples of initiating change in schools than there are of implementing (and institutionalizing) the change.

Implementation

Because typical implementation activities seldom support the innovation users sufficiently, the implementation phase, in retrospect, is often declared a non-event. However, in successful change it is a vital part of the change and improvement process. We have learned that the implementation phase should be supported by a set of activities for putting the innovation into practice, and as such implies skill training and one-on-one problem solving interventions, designed to help the individual learn to use the innovation (Stiegelbauer, Muscella & Rutherford, 1986). Thus, the provision of implementation assistance is critical. Translated into resources, this encompasses time, money, additional personnel, materials--and energy. Then just possibly, the implementation phase may be followed by institutionalization. However, just as there are fewer examples of implementation than there are of initiation, there are even less studies that focus on institutionalization.

Institutionalization

As noted, institutionalization has been little studied and it has not been clear what it means in terms of the every day innovation operations of the individual innovation users and their typical classroom practice. Institutionalization is viewed as the goal of change and the end result of the prior phases of adoption, initiation

and implementation; however, it has been difficult to know when institutionalization was reached, or if it was, and descriptions and analyses of this part of change have not been abundant.

We now turn to the brief literature on institutionalization, this phase of the school change process that appears so elusive.

Reviewing the Literature: A Short Past

Until recently neither researchers nor school practitioners have given much time or attention to the institutionalization phase of change efforts. Miles (1983) reviewed the literature to address the question, why do some innovations get "built in" (page 14) to the life of the school, and others just disappear. Miles' review is a useful one. And although he reports that the data about institutionalization are scant, the reader is encouraged to refer to his remarks about the work of Yin, et al. (1978, 1979), Corbett, Dawson & Firestone (1982), Glaser (1981), Louis, et al. (1981), Howes (1977) and Berman and McLaughlin (1978). Miles opines that past research has given unbalanced attention to "user skill" to the detriment of understanding "organization-level structural and procedural changes required for institutionalization" (page 16). Thus, in Miles' research and analysis of the DESSI Study (Study of Dissemination Efforts Supporting School Improvement, Crandall and Associates, 1982), he looked for organizational conditions that supported institutionalization. These he conceptualized in a chart drawn from the work of Yin and others (1978, 1979).

The chart is organized into three groups of factors. The first is supporting conditions, such as "operates on a regular, daily basis" and "competing practices eliminated." A second grouping is labeled passage completion, organizational conditions such as "goes from soft to hard

money" and "routines established for supply and maintenance." The third category of Miles' chart of organizational conditions that support institutionalization is labeled cycle survival and includes factors such as "survives annual budget cycles" and "survives departure or introduction of new personnel" (1983, page 16).

One of the factors in the cycle survival group on the chart, "achieves widespread use throughout organization," (page 16) appears to us to be significantly important and we would wish to have this use variable defined. We believe, as Fullan and Park (1981) suggest, that people (skills, beliefs) are often overlooked in the change process in favor of things (materials, guidelines). "People are much more difficult to deal with than things, they are also much more necessary for success" (page 13). At the individual classroom teacher level, it is not clear from Miles' chart how to know if "widespread use throughout organization" has been achieved.

An additional analysis by Miles resulted in the generation of a model of factors, organized into two groups of providing supports and warding off threats. This useful model illuminates our understanding of the variables involved in institutionalization, as defined by organizational conditions, user effort and innovation vulnerability. The analysis identifies factors that contribute to or predict that institutionalization will occur, or that the innovation has "settled down." In this regard, Miles has increased our understanding of this poorly understood phase of change.

Berman and McLaughlin (1978) also identified factors affecting implementation and continuation of innovations; these included the project's (or the innovation's) methods, the project resources, the scope of the project, implementation strategies, school organizational climate and leadership (role of principal), characteristics of schools and attributes of teachers ("years of teaching, sense of efficacy, and verbal ability," page VIII), and district management capacity and support. How to ascertain, however, when the innovation has become "built in," has "settled down," and has become institutionalized, is yet a mystery.

Ekholm and Trier (1985) indicate that institutionalization is a "process through which an organization assimilates an innovation into its structure" (page 2). Also focusing on the process, Van Hees (forthcoming) defines institutionalization as "the process of survival of the new practices and structures over time." The "innovation must be locked into the organizational setting of the school and into the minds of the users. It becomes part of the normal day to day routine and is not seen any more as something new or different requiring other materials, skills, or attitudes." Van Hees laments that the question of whether and when a new practice "has become a natural and persistent part of the school is not easy to answer. Some more objective measures could be used here."

To summarize, there is little in the literature on change that directly addresses institutionalization. Most of what is available focuses on the process, or what is required for the innovation's institutionalization. As Van Hees suggests, there is a need for measures that could be employed to know when one has reached institu-

tionalization. We now turn our attention to this dilemma.

Perspectives on Institutionalization

Various writers have viewed institutionalization as a process leading to a condition or point that has not yet been defined satisfactorily, though a variety of perspectives have been brought to the attempted definitions. Miles suggests "supports" and "threats" (that the innovation has experienced and overcome on its way to "built-in-ness,") and assimilation into the organizational structure is suggested by Ekholm and Trier. Van Hees talks about the process of "survival" and how different persons or groups may identify the moment in time when an innovation is institutionalized according to their perspective. For instance, a school building administrator thinks "of a new reading method as being fully institutionalized because it is part of the written curriculum, new material is brought and an in-service training program is carried out" (page 58). On the other hand a teacher in the same building with the same innovation "could think he is still implementing and doing experiments with the new method" (page 58). Van Hees suggests further that another teacher on the staff may think "he is not changing anything at all because he is doing everything the same as before and nobody notices it or says something about it" (page 58).

From the early rural sociology studies on change, institutionalization was viewed as the farmer planting hybrid corn seed (a very simple and uncomplicated innovation) followed by continued planting of hybrid corn seed. For the most part, the educational reformers of the last two decades have adopted a similar simplistic view and equated change and institutionalization with the presence of the innovation materials in the classroom and the completion of inservice

training. Unlike planting seed, implementing and institutionalizing educational innovations is highly complex.

Fullan and Pomfret (1977), however, brought new insights to the understanding of curriculum implementation (and indirectly institutionalization) in their review of studies on this topic. They pointed out that the user was an important unit of investigation and that despite organizational factors, how each individual was working with the innovation was an essential variable to take into account. They cited user behaviors, described by Hall and Loucks as Levels of Use (1977), as important to making this assessment.

Subsequent to Fullan and Pomfret's review, additional work described by Hall and Loucks focused on the parts of the innovation that the user was implementing and adapting as they put the innovation into use in their own classroom. The concept of Innovation Configuration (1978) made it possible to identify and describe operationally what the innovation looked like as it was implemented. Putting some of these perspectives together, Huling, Hall, Hord and Rutherford (1983) in a recent discussion of "implementation success," delineated a process for establishing and codifying the degree of implementation accomplished by an individual. This process makes it possible to compare the amount of innovation implementation of a user across varying points in time, compare one user against other users, compare a school against other school units, and against other innovations. Further, this process utilizes the same vectors that can be employed to measure and to determine when an individual has reached institutionalization, and if institutionalization continues.

A New Definition of Institutionalization

Because the literature has not provided an operational definition of institutionalization at the individual user level, we propose a way to define and measure whether you "have it" in terms of the individual user of an innovation. Whether we refer to this point in time as "built-in-ness," or "stabilization," or something else, the definition can apply.

Descriptions of Institutionalization

We propose to use, for the purpose of identifying institutionalization, three descriptive measures: 1) one that identifies how the user is feeling about, or reacting to the innovation, and 2) one that describes how the individual is using the innovation (these two vectors are "person" vectors) and, 3) a measure that describes the new program, process, or product in operation in the individual's classroom practice (the "innovation" vector). Descriptions of these concepts follow.

Stages of Concern. Stages of Concern (SoC) describes seven kinds of concerns that individuals experience with varying intensities as they experience the change process (Hall, Wallace, Dossett, 1973). These range from early concerns about "self," to concerns about "task," and finally to concerns about "impact" (Figure 1). A reliable and valid instrument for measuring Stages of Concern, the SoC Questionnaire, as well as methods for interpreting the measures (Hall, George & Rutherford, 1977), have been developed.

Figure 1

STAGES OF CONCERN:
TYPICAL EXPRESSIONS OF CONCERN ABOUT THE INNOVATION

	STAGES OF CONCERN	EXPRESSIONS OF CONCERN
IMPACT	6 REFOCUSING	I HAVE SOME IDEAS ABOUT SOMETHING THAT WOULD WORK EVEN BETTER.
	5 COLLABORATION	I AM CONCERNED ABOUT RELATING WHAT I AM DOING WITH WHAT OTHER INSTRUCTORS ARE DOING.
	4 CONSEQUENCE	HOW IS MY USE AFFECTING KIDS?
TASK	3 MANAGEMENT	I SEEM TO BE SPENDING ALL MY TIME IN GETTING MATERIAL READY.
SELF	2 PERSONAL	HOW WILL USING IT AFFECT ME?
	1 INFORMATIONAL	I WOULD LIKE TO KNOW MORE ABOUT IT.
	0 AWARENESS	I AM NOT CONCERNED ABOUT IT (THE INNOVATION).

Hall, G. E. & Rutherford, W. L. Concerns of teachers about implementing team teaching. Educational Leadership, December, 1976, 34(3), 227-233.

Hall, G. E. & Loucks, S. F. Teacher concerns as a basis for facilitating and personalizing staff development. Teachers College Record, September, 1978, 80(1), 36-53.

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Levels of Use. Levels of Use (LoU) describes how performance changes as the individual becomes more familiar with an innovation and more skillful at using it. The Stages of Concern dimension focuses on perceptions or feelings about the innovation; Levels of Use focuses on whether or not and how the teacher is using an innovation. Eight distinct Levels of Use have been identified (Hall, Loucks, Rutherford & Newlove, 1975). Typically an individual begins with LoU 0 "nonuse" of the innovation, then moves to LoU I "orientation" about the innovation and LoU II "preparation" for use. Initial use is usually at LoU III "mechanical," but as experience increases, innovation users move to a LoU IVA "routine" level of use and eventually may reach various "refinement" levels (LoU IVB, V, VI), where changes are made based on formal or informal assessments of student needs (Figure 2). A focused interview procedure has been developed to measure Levels of Use (Loucks, Newlove & Hall, 1975).

Innovation Configurations. The third vector that is important in understanding and describing the change process is Innovation Configurations (IC) (Hall & Loucks, 1978; 1981). This concept is used to describe the various operational forms of an innovation that result as individual users adapt it for use in their particular situations. With this concept, the major operational components of an innovation are identified and the ways that each of the components can vary are described. These descriptions are summarized on an Innovation Configuration Component Checklist. The IC Component Checklist is innovation specific and can be used to record in what ways each potential user is using the various parts of the innovation (Figure 3).

Figure 2

LEVELS OF USE OF THE INNOVATION:
TYPICAL BEHAVIORS

LEVEL OF USE		BEHAVIORAL INDICES OF LEVEL
VI	RENEWAL	THE USER IS SEEKING MORE EFFECTIVE ALTERNATIVES TO THE ESTABLISHED USE OF THE INNOVATION.
V	INTEGRATION	THE USER IS MAKING DELIBERATE EFFORTS TO COORDINATE WITH OTHERS IN USING THE INNOVATION.
IVB	REFINEMENT	THE USER IS MAKING CHANGES TO INCREASE OUTCOME
IVA	ROUTINE	THE USER IS MAKING FEW OR NO CHANGES AND HAS AN ESTABLISHED PATTERN OF USE.
III	MECHANICAL USE	THE USER IS USING THE INNOVATION IN A POORLY COORDINATED MANNER AND IS MAKING USER-ORIENTED CHANGES.
II	PREPARATION	THE USER IS PREPARING TO USE THE INNOVATION.
I	ORIENTATION	THE USER IS SEEKING OUT INFORMATION ABOUT THE INNOVATION.
0	NONUSE	NO ACTION IS BEING TAKEN WITH RESPECT TO THE INNOVATION.

Hall, G. E., Loucks, S. F., Rutherford, W. L., & Newlove, B. W. Levels of use of the innovation: A framework for analyzing innovation adoption. The Journal of Teacher Education, Spring, 1975, 24(1), 52-56.

Hall, G. E. & Loucks, S. F. A developmental model for determining whether the treatment is actually implemented. American Educational Research Journal, Summer, 1977, 14(3), 263-276.

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Figure 3

Innovation Configuration Components and Variations of a

Continuous-Progress Mathematics Curriculum

Teacher _____ Rater _____

*I. Instructional Materials			
1. program materials only	2. program materials plus	3. text only	4. teacher-made materials only
II. Grouping			
1. completely individualized	2. small groups	3. large homogenous	4. large heterogenous
*III. Testing Component			
1. each student tests themselves as they complete each objective	2. testing done weekly with test results fed back to students	3. testing done once every six weeks--nothing done with test results	4. no regular testing except standardized achievement tests required by district

- - - To left of slashed line is ideal variation

_____ To left of solid line is acceptable variation

_____ To right of solid line is unacceptable variation

* Critical Components

When particular use of components is valued or rejected, this information can be reflected in the IC Checklist.

In combination these three vectors can be applied to users and nonusers of any innovation at any point in time. They can be utilized to establish minimum institutionalization, maximum institutionalization, or if a user is "not there yet." It should be noted that, for any particular innovation, some person or persons has the privilege or responsibility for using these dimensions to set the institutionalization standards for that innovation and this should be considered at the beginning of the change process. To describe these standards for maximum and minimum institutionalization, we will use the three vectors, Stages of Concern (SoC), Levels of Use (LoU), Innovation Configuration (IC).

Maximum or Ideal Institutionalization

Ideal institutionalization would be reached when the individual user and the use of the innovation can be described in these three ways:

Stages of Concern: Individuals (teachers) have experienced using the innovation for an extended period of time so that they are fully aware of the innovation's components and how to use them in their classroom. Thus, their Stages of Concern 1 and 2 and 3, Informational and Personal and Management, have been considerably decreased from their initial introduction to the innovation and its use. The teacher is no longer intensely interested in learning about the innovation, how using it will affect them personally, or how to make it work for them in their classroom. Ideal use or maximum institutionalization would be characterized by the user expressing more intense impact Stages of Concerns 4, 5, or 6--Consequence, Collaboration, Refocusing--all focused

on interests for increasing benefits for students from innovation use (see Figure 4).

Levels of Use: The individual teacher has moved beyond the non-use levels of Orientation and Preparation, and through the Mechanical Use period of inexperience with the innovation. Extended practice and experimentation time has led to stabilized use, Level of Use IVA Routine. Depending on the goals set for ideal use for the particular innovation in the particular setting, Routine Level of Use may constitute ideal use, or LoU IVB, V, or VI--Refinement, Integration, or Renewal--may be required for maximum use.

Innovation Configurations: The individual teacher has put into practice the preferred or ideal variation of all components of the innovation. For example in the IC Checklist in Figure 3, the teacher would be using the component variations exhibited to the left of the dashed line: using the math program materials only, using individualized math instruction as the "grouping" procedure, and using a testing process wherein students test themselves upon completion of each objective. No other variations would be considered as "ideal." Again, the ideal variants of using the innovation's components have been assessed and established.

In summary, maximum institutionalization is described as accomplished when individual teachers reach Stages of Concern 4 or above, reach Level of Use IVA or above, and are using the ideal variations of the innovation's components.

Minimum Institutionalization

Institutionalization can be described as a lower, but acceptable, quality of use by individuals, again by applying the three vectors:

Figure 4

Maximum and Minimum Institutionalization

	MAXIMUM	MINIMUM
SoC	1, 2, 3 decreased 4, 5, 6 increasing	1, 2, 3 decreased
LoU	IVA IVB, V, VI	IVA
IC	ideal variations	acceptable variations

Stages of Concern: Minimum institutionalization of an individual's use of an innovation could be decreed when the intensity of the individual's Stages of Concern 1, 2 and 3 have dropped from their typically high intensity at the beginning of a change effort. Whereas maximum institutionalization requires an elevation of SoC 4, 5, and/or 6, minimum institutionalization would be satisfied when the early intensities of Stages 1, 2, 3 have decreased.

Levels of Use: Minimum institutionalization would not be met until the user is rated at Level of Use IVA Routine; higher levels would not likely be characteristics of minimum institutionalization.

Innovation Configuration: Maximum institutionalization required the use of "ideal" variations of all the innovation's components; minimum institutionalization could be declared when the user has put "acceptable" variations of the critical components into place. Again, using Figure 3 as an example, the teacher is using those variations pictured to the left of the solid line: using program materials plus others, or text only (teacher-made materials only are not acceptable), using small groups (large groups for instruction are not an acceptable variation), and using a weekly testing process with results shared with students (six weeks tests are not acceptable, nor are standardized achievement tests only).

In brief, minimum institutionalization can be claimed when individual teachers' Stages of Concerns 1, 2, 3 have been reduced in intensity, Level of Use IVA has been reached, and the acceptable variations of the innovation components are used in classroom practice.

As a case example, see Rutherford (1985) who describes minimum institutionalization and "not there yet" practices (obviously less growth by teachers in the three measures than minimum institutionalization) in a study of three schools' use of a writing program during a four year period of time.

Implications

From a simplistic view of change, delivering the innovation was assumed to produce stabilized use and results. More recently we understand change as a complicated and complex process. The goal of this process is high quality institutionalization of the intended change. Being able to define institutionalization provides us with understandings and structures that can guide and influence our efforts directed toward this goal. We briefly discuss implications for several relevant areas.

Interventions

We have identified the Stages of Concern and Levels of Use standards for maximum and minimum institutionalization. We believe these SoC and LoU standards can be applied generically to all innovations. The Innovation Configuration standard, however, will be specific to each particular innovation. Ideal (or maximum) and acceptable (or minimum) variations of the IC components will be used as the IC standards and would be defined by the innovation developer or some other person who is closely involved with the innovation and who has the responsibility.

We have defined operationally our goal of a change effort in terms of the individual user, and groups of users, and we have described the means that make it possible to ascertain when we have reached the goal. More importantly, these same benchmarks can guide the design and delivery of interventions to individuals, to help them reach the goal of institutionalization. Measures of the individual's "concerns" provide the basis for determining interventions targeted at resolving self and task concerns, so that over time the individual reaches impact stages of concern about the innovation. Similarly, classroom use can be assessed and appropriate interventions designed. Thus, the vectors that are available to establish the institutional criteria are employed to provide the users with facilitative interventions, based on Stages of Concern, Levels of Use and Innovation Configuration data. The long range goal is institutionalized change; data-based interventions make it possible to effectively support individuals in their efforts to move toward institutionalization. Furthermore, in order to maintain institutionalization, data-based interventions must continue to be supplied.

Professional Development of Personnel

We believe that change has not completed its course until the innovation users have reached the point of institutionalization, as defined by the vectors. For this to happen, many types of interventions will be required for the users. The interventions will be delivered across time by knowledgeable, skillful change facilitators (Hall and Hord, 1986). Because we are developing an increased knowledge base about the characteristics and skills of effective change facilitators (Rutherford, 1985; Murphy, Huling-Austin & Stiegelbauer, 1986), relevant

professional development for facilitators is now more widely available. Thus, in addition to training teachers in how to use innovations, change efforts will also require that facilitators be selected and trained in how to facilitate teacher's movement to institutionalized innovation use.

Evaluation

The innovation that was expected to provide improved student outcomes is all too frequently evaluated one year after introducing it into schools. Student gains are assessed and, typically, the anticipated student gains are absent. Also typically absent, but not measured, is whether the innovation has become stabilized or institutionalized into teachers' classroom practice. Until the innovation is institutionalized and used by teachers in a way that can deliver the promised outcomes, it makes sense to delay summative evaluations of the innovation. When the minimal or maximum institutionalization criteria have been met by the teacher, student outcome evaluation is then reasonable. Further, these data about the teacher's degree of implementation of the innovation provide a means to understand and explain student outcome data, assuming the innovation makes a difference.

Policy Determination

For those who formulate policy, change as a process, with institutionalization as one of the subprocesses, is an important understanding. More specifically, policy makers need to appreciate the multiple phases of the process of change which contribute to and interrelate to institutionalization. Institutionalization must

be acknowledged as the goal to be reached through initiation and implementation activities. Further, institutionalization requires maintenance, and policy development must support this premise. The reality to be recognized is that institutionalization has its beginnings in the initiation phase of the change process; the various subprocesses are intertwined and must be attended to concurrently. Until policy makers take a broad view of the process of change, develop policies that support all of the subprocesses, and clearly articulate an operational definition of the "mature" implementor who has achieved institutionalization, we are not likely to achieve success in reaching institutionalization, which, of course, precludes maintaining it or continuation of it.

In Conclusion

Real attention by school improvers to the institutionalization phase of change has been long in coming. For decades it was widely expected that the initiation of a change in schools would somehow miraculously lead to its becoming a part of typical classroom or school practice.

When the "new" becomes familiar, "old," and routine--that's one way to view institutionalization, a process that typically is as long as its label. But what does it really mean as the goal of the process of change? How do you know when you're there, or that it is timely to expect full results of innovation use? That time, we believe, is correlated to how each user feels about and what they do with an innovation. Benchmarks and mileposts for assessing institutionalization at the individual user level have been presented in this paper. They provide definitions, measurement procedures and answers to questions

about whether or not and to what degree "they/we are using it" as an established and ongoing practice.

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SELECTING AND TRAINING EDUCATIONAL LEADERS TO BE FACILITATORS OF SCHOOL IMPROVEMENT

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SELECTING AND TRAINING EDUCATIONAL LEADERS TO BE FACILITATORS OF SCHOOL IMPROVEMENT[1, 2]

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The importance of school improvement as a goal is widely recognized both by educators and the public at large. State legislators, parents and other taxpayers as well as school boards and superintendents are exerting pressure for schools to improve. Much of this pressure is being focused on educational leaders and their role in bringing about school improvement.

For the past five years, researchers at the Research and Development Center for Teacher Education (R&DCTE) have studied the role of school principals and other educational leaders in facilitating school improvement. Through this research, much has been learned about the school improvement process and what facilitators do on a day-to-day basis to bring about change (Hall, Hord, Guzman, Huling-Austin, Rutherford, & Stiegelbauer, 1984; Hall, Hord, Huling, Rutherford, & Stiegelbauer, 1983; Hall, Rutherford,

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[1]The research described herein was conducted under contract with the National Institute of Education. The opinions expressed are those of the authors and do not necessarily reflect the position or policy of the National Institute of Education and no endorsement by the National Institute of Education should be inferred.

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Newlove, Hord, Goldstein, Huling, & Griffin, 1982; Rutherford, Hord, Huling-Austin, Stiegelbauer, Murphy, Putman, Hall, & Muscella, 1985). The cumulative findings from this body of research now make it possible to present ideas for the selection and training of school leaders. The paper is primarily intended for those who view school improvement as a top priority, and provides research-based suggestions about 1) selecting those persons who will likely be effective as facilitators and 2) training persons to become effective facilitators of change.

It is important to emphasize that the criteria to be discussed in this paper relate to the role of educational leaders in school improvement. A district or agency that has other top priorities for its administrators such as strong public and community relations or managing declining enrollments and resources would probably find other selection and training criteria more relevant to their needs.

The purpose of this paper then is to share findings from the past five years of R&DCTE research related to the role of educational leaders in school improvement. In doing so, we will discuss the implications related to the selection and placement of educational leaders, and the content and process of training leaders for school improvement.

Assumptions Underlying CBAM Research

The research to be discussed in this paper is grounded in the Concerns Based Adoption Model (CBAM) (Hall, Wallace, & Dossett, 1973). The CBAM evolved out of extensive research on the change process and particularly implementation of educational innovations in schools and college settings. Underlying the CBAM model are a number of basic assumptions (Rutherford, Hall, & Huling, 1984):

1) Change is a process, not an event.

2) Change is made by individuals first, i.e., the individual is the primary focus of actions taken for change.

3) Change is a highly personal experience; everyone reacts differently.

4) Change entails developmental growth in feelings and skills; there are identifiable "stages" and "levels" of the change process as experienced by individuals.

5) Change is best understood by individuals when it is presented or described in operational terms, as it would appear when fully in use.

6) Change can be best facilitated when actions are based on the diagnosed needs of individuals; a client-centered diagnostic/prescriptive model has benefits for both client and facilitator.

7) A change facilitator needs to work in an "adaptive/systematic way," adapting their interventions to the needs of the change and clients within the change. Further, any interventions or actions taken to facilitate change must be directed to individuals first, and innovations second.

Out of this perspective and as a result of ten years of research in schools, the CBAM/RIP program has developed and refined a set of conceptual frameworks for planning, facilitating, monitoring, and evaluating change in schools. The dimensions of the CBAM include:

1) Stages of Concern (SoC), which is used to assess user concerns or feelings about a change (Hall, George, & Rutherford, 1977; Newlove & Hall, 1976);

2) Levels of Use (LoU), which is used to determine the actual extent of

use based on behavioral indicators (Loucks, Newlove, & Hall, 1976). Both these measures stem from theories of adult development (Fuller, 1969; 1973) and extensive testing in the field;

3) Innovation Configurations (IC), which is used to describe the innovation or change (Heck, Stiegelbauer, Hall, & Loucks, 1981); and
4) the Intervention Taxonomy (IT), which describes and categorizes actions taken by facilitators in implementing or monitoring change (Hall & Hord, 1984a).

All of these dimensions are field based and continue to be tested through ongoing research by CBAM/RIP staff, various implementation efforts in schools, and dissertation studies. A more complete discussion of the CBAM is found in Appendix A. The next section of this paper reviews the research base from which the recommendations are drawn.

Five Years of Research: The PTI and High School Studies

The Principal-Teacher Interaction (PTI) Study conducted over the 1980-81 school year, focused on the role of principals as the major facilitator of change in their schools. While the literature on leadership presented some indicators of what contributed to effective leadership, little research had been done on principals as facilitators of change. Questions in need of clarification included: What are the day-to-day interactions and actions taken by principals as facilitators of change? How do they organize an implementation effort? How do they support the use of new practices and encourage teachers? Do all principals do the same thing? If not, what effect do these differences have? Are there other facilitators involved?

With such questions in mind, the PTI Study focused on nine elementary school principals involved in implementing a curriculum innovation in their

school. Through a combination of data collection methods, including interviews, daily logs, and bi-weekly phone contacts, the daily intervention behaviors of these principals were surveyed over the course of one school year (Hall, Hord, Huling, Rutherford, & Stiegelbauer, 1983). The principals in the study were selected by their district on the basis of district assessment of the principal's change facilitating "style" or characteristic leadership behaviors. Earlier studies had suggested that the principals' "style" might indicate their approach to implementation and its effectiveness (Hall, Rutherford, & Griffin, 1982). SoC, LoU, IC and Intervention data were collected from teachers at three points during the year to monitor and assess the success of implementation efforts (Huling, Hall, Hord, & Rutherford, 1983). Interviews and observations at regular intervals added vital data about the schools' response to the change (Stiegelbauer, Goldstein, & Huling, 1982).

The findings from the PTI study were diverse: 1) principals did exhibit different "styles" of facilitation and there was a relationship between principal "style" and the effectiveness of implementation efforts (Hall & Rutherford, 1983; Huling, Hall, Hord, & Rutherford, 1983); 2) the actions of the principal and others could be categorized in terms of the Intervention Taxonomy (Hall & Hord, 1984a) which revealed different "game plans" for change; and 3) an analysis of interventions from each school, when considered in the light of implementation success, suggested the kinds of actions that needed to be taken for effective facilitation. These groupings of actions, called Game Plan Components (GPC's), provided more explicit information about the nature of interventions (Hord, Huling, & Stiegelbauer, 1983). Finally, the study showed that in each school, the principal was not the only facilitator. Each school had a second change facilitator (2nd CF) who came to

light in the course of more indepth work in the school. This facilitator's role was different from, but complementary to, the role of the principal (Hord, Stiegelbauer, & Hall, 1984b).

The Principal-Teacher Interaction study provided information about the roles of facilitators, in particular the principal, the nature of their actions contributing to change and the effect of those actions on teachers. Each of the innovations viewed in the study represented a school wide change, requiring the principal to structure efforts to meet the needs of different grade levels and individuals. The unit of change in this study was the whole school. The nature of the interactions for change is drawn from the qualitative and quantitative data on interventions and their effects, as well as the impressions of research staff collected over the school year (Hall et al., 1983).

The High School Study, conducted in three phases during the 1982-1985 school years, took a broader and more descriptive view of the change process. During Phase I, one or more staff members visited 12 high schools in various regions of the U.S. These exploratory visits were made in order to become more familiar with the organizational structure of the high schools and the change efforts taking place, and to examine possible sources of information and explore strategies for future data collection efforts (Huling-Austin, 1984). In each visit, school administrators, department chairpersons, teachers and students were interviewed to gain their insights about how change occurs, what innovations were present, and how to best conduct research on change in high schools. Phase II of the high school study was a descriptive study designed to address four major research questions:

1. What are the types, sources and purposes of change in high schools?
2. What are the key units (school, department, etc.) of change?

3. What are the situational factors that most influence the change process?

4. How is the change process managed in high schools?

To answer these, it was deemed important to look at high schools located in different size and type communities and with varying change dynamics, that is, schools with much change and those that were more typical for each district. Community types were rural, urban, suburban and mid-size cities; the high school size varied with the type of community. Nine sites were chosen in 9 states geographically distributed across the nation. At each site 2 high schools were selected as study schools (N=18), one a typical school and the other with much change ongoing.

Phase III involved 2 high schools and 3 elementary schools in each of 2 school districts (Rutherford et al., 1985). The purposes of this phase were:

1. To determine the role of the district office in school change.
2. To compare the change process in elementary and secondary schools.
3. To investigate the management of change over the long term, and
4. To study how leadership affects the change process.

This phase also incorporated visits to some of the original PTI elementary schools in order to examine the progress of implementation efforts. Special attention was devoted to understanding the role and function of different constituent groups including department chairpersons, district personnel, and teachers in school improvement efforts.

The High School Study viewed change in terms of the whole system. Taken in all, Phases I, II, and III include data from over 30 high schools and six elementary schools. Findings from the study include information about the sources and diversity of changes impacting high schools (Rutherford & Huling-Austin, 1984), the nature of leadership for change in high schools

(Hall & Guzman, 1984; Hord & Murphy, 1985; Huling-Austin, Stiegelbauer, & Muscella, 1985), situational factors influencing change in high schools (Stiegelbauer, 1984; Stiegelbauer, Haddad, & Murphy, 1985), the roles and reactions of teachers (Rutherford & Murphy, 1985), and the role and influence of the district office on change in both the high school and elementary school (Hall, Hord, & Putman, 1985).

When considered together, the PTI and the High School Study data present a clearer picture of important variables associated with change. Among these variables are the nature of change facilitators, change units, changes themselves, and of the actions taken to facilitate change efforts. Additionally, the data identify roles involved in the change process and configurations of leadership which are more effective in school improvement.

Selection of Educational Leaders

The High School and Principal-Teacher Interaction Studies have contributed greatly to our understanding of the role and actions of leadership for change. While these studies have also allowed us to develop some hypotheses about effective leadership in general, the findings relate specifically to the change process and leadership for school improvement. The roles and behaviors of school leaders in the context of change may be very different from the roles and behaviors leaders might assume when maintaining stability or wearing "other hats." The focus on facilitating school improvement is important to this discussion of selection of educational leaders. The findings from the two studies can inform the processes of selection, hiring, and placement of individuals in leadership roles for school improvement. Additionally, these findings have implications for the selection of change facilitators in many roles, not only principals.

The term 'facilitator' is one used in our research to indicate anyone actively involved in supporting the change process, or working with potential users to understand and incorporate the change (Stiegelbauer, Muscella, & Rutherford, 1986). A "change facilitator" then, is one who provides assistance to those who are expected to incorporate new attitudes or skills in response to a particular change (Hall & Hord, 1986). Research conducted in elementary and secondary settings shows that there may be many different change facilitators in the schools operating in various roles, including principals, assistant principals, department heads, and teachers. The roles these individuals play in the change process are often better characterized by the actions and interactions they engaged in than by their formal designation in the school. One possible exception to this is the principal. In almost every school, the principal proves to be a necessary support to the process, even if he or she takes little active role in facilitation (Hall & Hord, 1986; Huling-Austin, Stiegelbauer, & Muscella, 1985; Stiegelbauer, Muscella, & Rutherford, 1986).

The roles of facilitators can be deliminated according to the kinds of actions undertaken. Every change effort we studied in our research had a primary, or first, change facilitator (CF). This person had the major responsibility for managing the change and was often the principal. Most schools also had a second change facilitator (Hord, Stiegelbauer, & Hall, 1984a, 1984b; Stiegelbauer, Muscella, & Rutherford, 1986) who played a complementary role to the first CF and worked in closer contact with teachers or prospective users. Further, there were often other CFs, teachers or district consultants, who worked with the 1st and 2nd CF to promote and clarify the change.

These facilitators in many cases become a change facilitating "team," working together to enhance the change process (Hall & Hord, 1986). For this team to work effectively, the primary CF has to be consistent in the role as leader during the process. Ideally this means delegating and monitoring responsibilities from the perspective of a long-term plan for the change which reflects the needs of the individuals involved, the specific context, and the change itself (Hall & Hord, 1984b; Rutherford, 1981). This plan includes specific interventions directed to the needs of the process (Hord, Huling, & Stiegelbauer, 1983; Hord, Stiegelbauer, & Hall, 1984a).

Selection and Style

Selection issues relating to the change facilitation roles include: the demands of the role, the characteristics that would best meet these demands, and, because of different roles and interactions in a "team" of facilitators, the demands and characteristics of interactive facilitation. The PTI study findings present some guidelines to these issues in the concept of "style" (Hall et al., 1983; Rutherford, Hord, & Huling, 1983).

The term 'style' refers to a characteristic manner in which a leader, or facilitator, will approach the task of facilitating change. The PTI study hypothesized that a principal's change facilitating style would influence not only the nature of actions taken but the success of implementation as a whole. Three change facilitating styles -- responder, initiator, manager -- were traced, each with a characteristic pattern of behavior. Each also had their own attributes in terms of facilitation (Hall, Rutherford, Hord, & Huling, 1984). The initiator style, however, had the greatest success as correlated with implementation on the classroom level (Huling, Hall, Hord, & Rutherford, 1983).

Very briefly, the three styles are as follows (Hall & Hord, 1984b; Rutherford, 1984). Leaders with the Responder change facilitating style place heavy emphasis on allowing teachers and others to take the lead. They see their primary role as administrative, yet emphasize the personal side of their interactions with teachers and the community. They are often good public relations people. They tend to deal with decision making on a moment-to-moment basis and have short term goals that change as situations in the school demand. Responder style leaders let things happen. When working with other individuals who have their own vision for the change, their public relations talents enhance the sense of support necessary for the process. Alternately, their short term goals limit the depth of activity needed over time to institutionalize the change.

The leader with the Manager change facilitating style varies more in his/her behavior and considers the longer range interests of teachers, the school, and the district when making decisions. They are efficient administrators and see that basic jobs are done well, yet will protect their teachers from overload. They respond to changes that are prioritized by the district or by school need and actively work with teachers to implement those changes. Manager style leaders help things happen. They are often well liked by teachers and work smoothly with a team. Often they are limited in their ability to delegate effectively and become overly involved in specific projects.

Leaders with the Initiator change facilitating style seize the lead and makes things happen, occasionally at the expense of others' interests. They have a strong vision of what the school can be and base their actions accordingly. Decisions are made in relation to the school's goals and in terms of what is best for students, teachers, and themselves, in that order.

They will often reinterpret district programs and policies to better suit the needs of their school. They will push teachers strongly to adopt changes they see as necessary. Initiator style leaders make things happen. In a school where they are well received by teachers and in league with district/school interests, they are the most effective facilitators. In a setting that resists their vision, or where there is a conflict of interest, this style could be disruptive.

As this brief description might indicate, each style incorporates a range of behaviors that contributes to an approach to working with school improvements. The PTI and High School Study data suggest, however, that while an individual's behaviors may change from situation to situation 'style' tends to remain fairly constant. The behaviors relating to effective change facilitation, however, can be learned (Rutherford, 1984). Further, leaders may utilize one set of behaviors relating to a 'style' with one innovation and a different set with another, given the priority of the change. This approach seems to be especially true of manager style leaders.

In considering leadership for change, selection could be based on a combination of perceived leadership style and the needs of a specific setting. From the PTI data, it was found that initiators and managers had a higher implementation success than responders. Managers' schools had better climates than did initiators'. Both managers and initiators had better school climates, as perceived by teachers, than responders'. For example, a responder style principal or leader could contribute to a lack of focus within a school improvement effort, leaving individuals to sort things out for themselves. An innovation lacking "push" from a leader often seemed to find its way to the bottom of teachers' priority lists. Alternately, in a setting characterized by a group of self-motivated, independent teachers, an initiator

style might be seen as directive, whereas a manager style could provide the support, direction, and potential teamwork that would contribute to a change, and allow teachers to create their own sense of vision. Thus, selection must consider the needs of the context as well as the strengths of the facilitator(s). However, a manager or responder leader who works well with a specific setting could more successfully plan change projects by incorporating some of the behaviors correlated with the initiator style. Specifically, by clearly articulating a vision and translating it into clear objectives, leaders may enhance the change process.

Selection and Teams

Another consideration in selecting leadership for change involves leadership teams. The High School Study in particular indicated that in many settings a number of facilitators would work together to promote the change. These facilitators would then take on different roles, one being the primary facilitator, another the second CF, and occasionally, other CFs would be involved (Hall & Hord, 1986; Huling-Austin, Stiegelbauer, & Muscella, 1985; Stiegelbauer, Muscella, & Rutherford, 1986). A look at these teams indicated that there may be a complimentary relationship between facilitators of different styles. In building a "CF team" persons with complementary styles, interests, and expertise should be selected rather than those persons who have the same strengths and weaknesses. Hall and Hord (1986) present a detailed discussion of the roles and characteristics of leadership teams.

Selection and Roles

To select the primary change facilitator, consideration needs to be given to some of the attributes of that role, such as providing vision and push, structuring a plan, monitoring, providing consistent leadership, modeling expectations, and communicating about the change and progress with it. Since

the primary change facilitator needs to be in overall command of the process, this person should be in a position of credibility and authority. In most instances, it is the principal, assistant principal, department head, or someone in line authority.

Based on the style or characteristics of the person chosen as the primary facilitator, second CFs can be selected because of their complementary style, their placement in the school, or both. Second CFs tend to work more closely with teachers about the change. They should monitor in a non-threatening way in order to provide feedback and correction to teachers. Second CFs may also model behavior relating to the change. Initially, they do not need to be experts on the change itself, but they need to be willing to become experts in order to be credible to teachers. Further, they should be able to work with the primary CF in planning and monitoring the process. Persons in roles such as resource teachers, assistant principals, grade level leaders, or department heads, who are used to working closely with teachers would likely be the best choice (Hall, & Hord, 1986; Stiegelbauer, Muscella, & Rutherford, 1986).

The Training of Educational Leaders

Recommendations for training are based on "the premise that good skills, developed through good training are necessary for good facilitators" (Rutherford, Hall, & Newlove, 1982, p. 31). As discussed in the previous section, all persons involved in change facilitation should be included in the training process. Research conducted by RIP shows that generally, first CFs do not give consideration to the configurations of leadership they use in change efforts (Huling-Austin, Stiegelbauer, & Muscella, 1985). Yet, synthesis of research findings suggests that "with some common, and some specialized, training and clarifications of their mutually supportive roles...

facilitation effectiveness and implementation success in school improvement efforts could be greatly enhanced" (Hord, Hall, & Stiegelbauer, 1983, p. 32). Perhaps first CFs should begin to attend to the process of forming a team for school improvement.

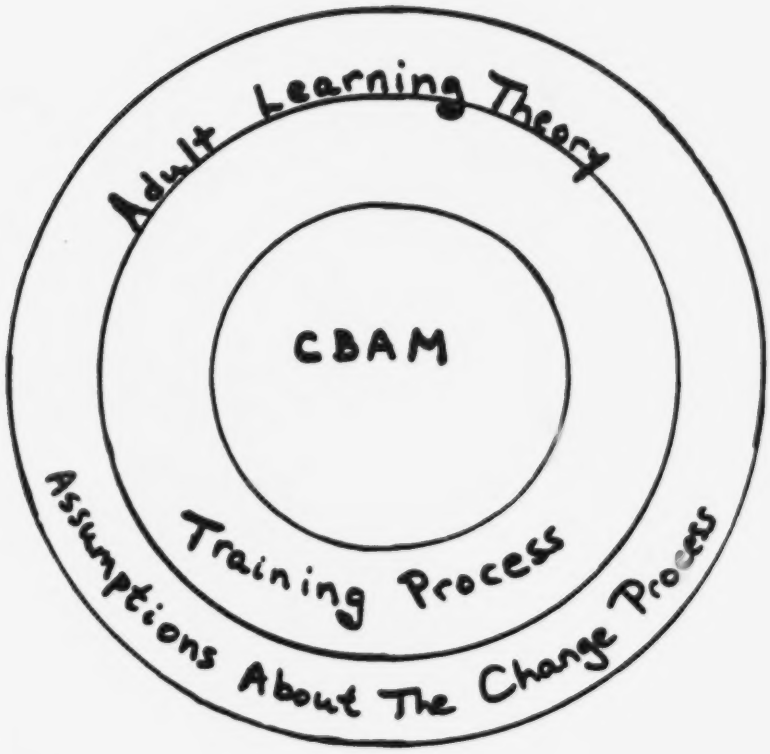
Common sense, as well as research, acknowledges that not all roles on a change facilitation team are of equal importance. Yet, selection and training of persons in each role rather than reliance on their emergence by chance is important in forming a team for effective change facilitation (Huling-Austin, Stiegelbauer, & Muscella, 1985). Some understanding of each of the CF roles would enhance the interaction among the roles. The previous section of this paper discussed the impact of roles on the selection process. See Hall and Hord (1986) for a detailed discussion of the roles which could be included in a change facilitation team.

Another guide for a training program is the realization that factors underlying concerns theory also apply to training change facilitators. Consistently, the research has confirmed that change is a process for facilitators too (Hord & Goldstein, 1982; Hord, Huling, & Stiegelbauer, 1983). In keeping with this premise, those involved in training should realize that it requires a commitment of time and effort over a substantial period. This consideration will be discussed in greater detail later in this paper.

Training is a multiple level task (Figure 1). What do you teach persons to enhance their performance as change facilitators? How do you transmit that information? These questions serve as the core of training educational leaders for change facilitation. The what and how are supported by the theoretical bases of the change process and adult learning theory. Each layer adds to the richness of the previous layer. In this section, the content and process of training will be discussed in depth.

FIGURE 1

MULTIPLE LEVELS OF TRAINING



The Content of Training

The research clearly shows that there is "the need for principals [and other CFs] to use the data sources available to them . . . . In many cases, information is not readily apparent to principals [and other CFs] in their day-to-day activities and can only be gathered through formal data-gathering methods" (Huling, Hall, & Hord, 1982, p. 23). The Concerns Based Adoption Model (CBAM) provides both diagnostic and prescriptive dimensions for use by trained change facilitators. Appendix A furnishes a detailed discussion of the diagnostic and prescriptive components of the CBAM. While particular CF roles might be more involved with certain dimensions of the model, general familiarity with the CBAM is needed by all change facilitators. The CBAM is the content to be used in training educational leaders in roles as effective change facilitators.

Further, research conducted at both the elementary and high school levels shows personal attention, by a change facilitator, is necessary in school improvement efforts (Hall, Rutherford, & Griffin, 1982; Rutherford & Murphy, 1985). The research also indicates that change facilitators can take action which can influence teachers' use of instructional innovations. Therefore, "appropriate training of principals [and other CFs] -- in effective intervening -- is a much needed link to the improvement of practice by teachers" (Hord & Goldstein, 1982, pp. 21-22).

The diagnostic dimensions of CBAM, Stages of Concern, Levels of Use, and Innovation Configurations, allow a change facilitator to probe the user system for information. Stages of Concern (SoC) focuses on perceptions of feelings individuals have about an innovation. Levels of Use (LoU) focuses on whether or not an individual is using an innovation. The third diagnostic dimension, Innovation Configurations (IC), focuses on the innovation rather than the

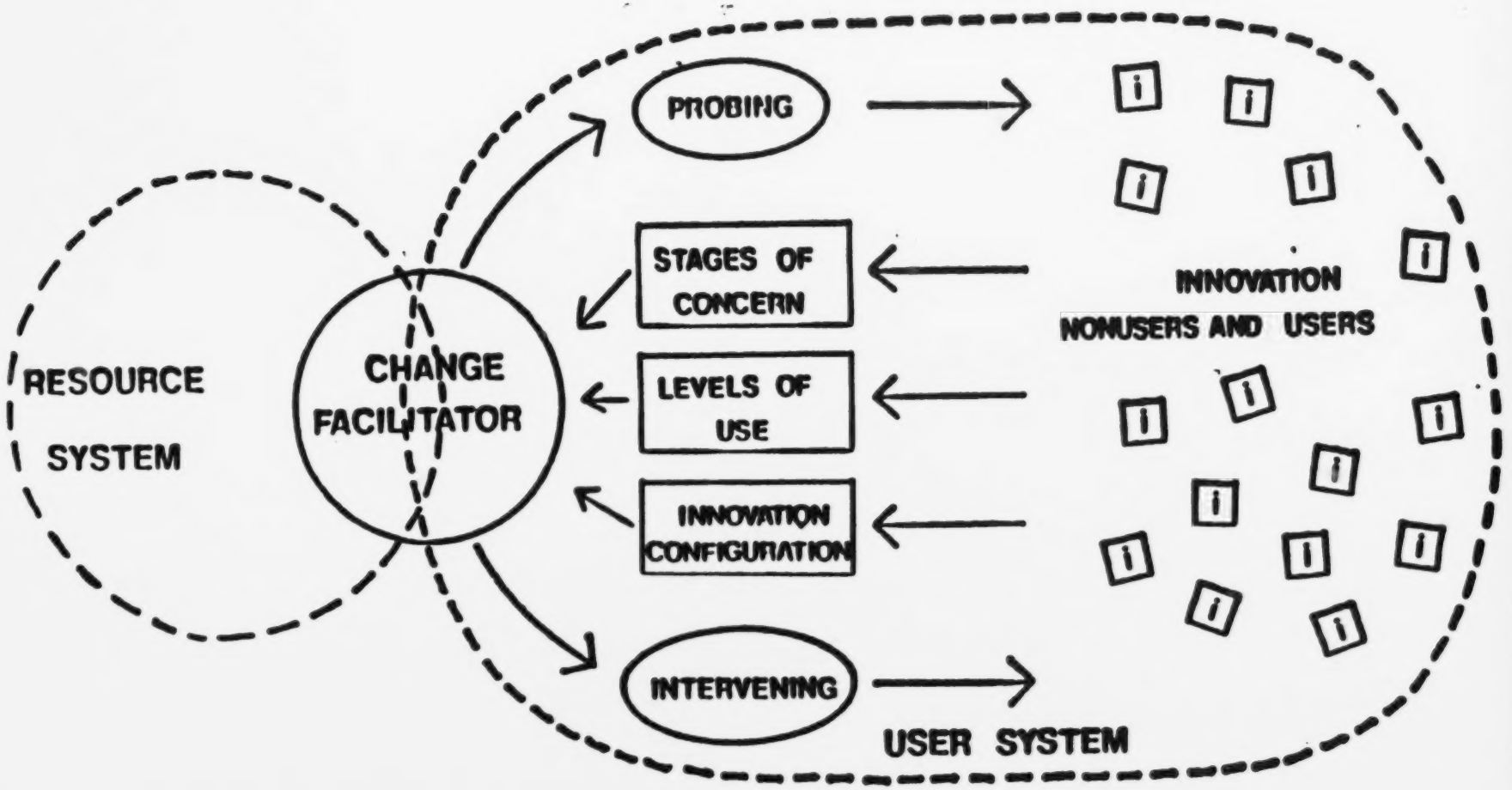
user. IC provides a framework for seeing exactly what parts of the innovation are being used and in what ways. By using these tools, change facilitators have data with which to plan appropriate interventions.

Figure 2 shows the interactive nature of the CBAM. The change facilitator has access to a resource system and to the CBAM tools for collecting diagnostic information about individuals and the innovation during the process of change. After using the diagnostic dimensions, Stages of Concern, Levels of Use, and Innovation Configuration, the change facilitator can make concerns-based interventions. As the research indicates, CFs use the CBAM to gather data and to take appropriate action. The tools can be used over and over to monitor both the individuals and the innovation. Facilitation then becomes a result of the interaction between the facilitator(s) and the target group.

The prescriptive dimension of the CBAM provides a framework for action. This move to action is based on data gathered by CBAM's diagnostic dimensions. As a result of learning how to use the practical CBAM tools, there are several applications for change facilitators. One involves the setting of goals for the use of a new program. Using the descriptive dimensions of the CBAM makes it possible to articulate clearly how individuals should change and what the innovation should look like in use. A second application involves the design of training and other interventions to help individuals implement the innovation, keeping in mind the goals that have been established, the developmental nature of concerns and the use and the resources available. As implementation progresses, the CBAM concepts and tools can be applied to monitor and evaluate the extent and quality of use of the innovation.

While knowledge about change theory and use of teams will enhance the change facilitation process, it must be kept in mind that the change process

THE CONCERNS-BASED ADOPTION MODEL



Hall, G. E., Wallace, R. C. & Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin: Research and Development Center for Teacher Education, The University of Texas, 1973.

FIGURE 2

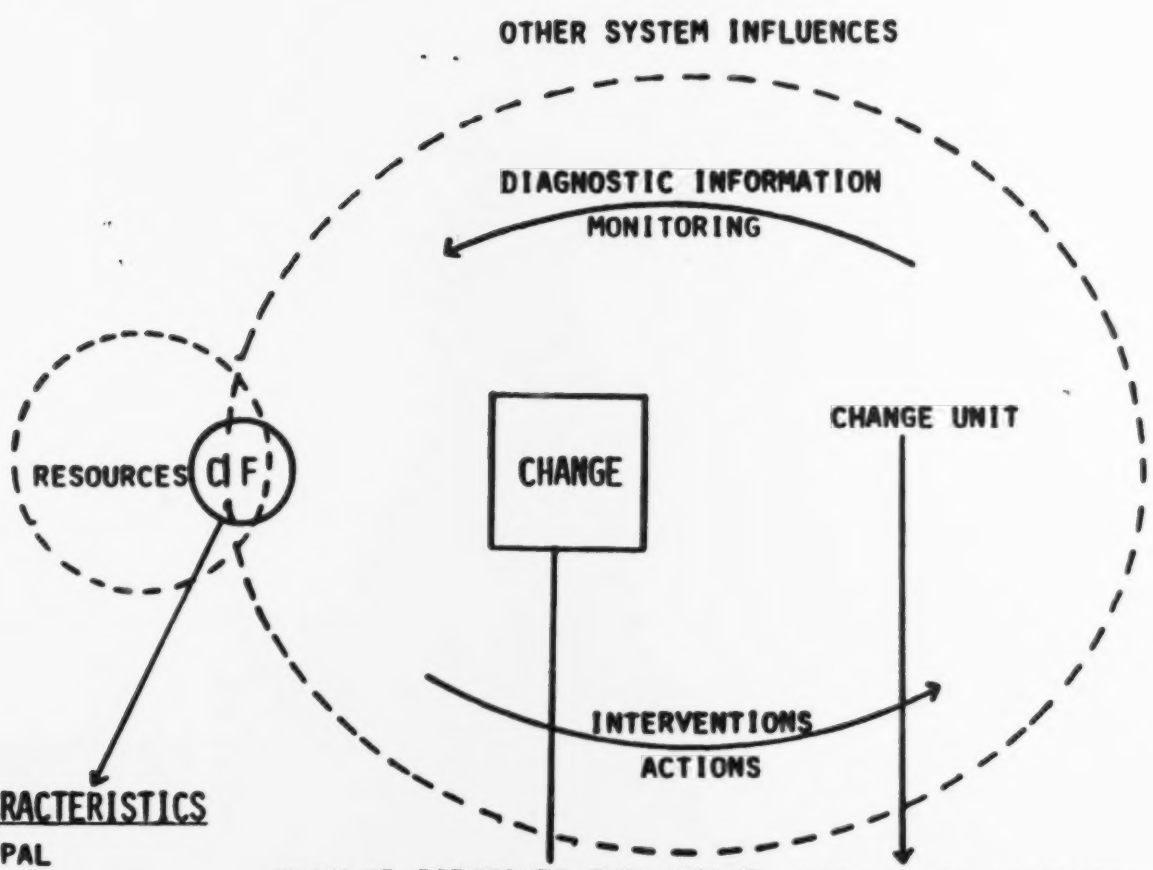
is unique to each situation. When using the diagnostic CBAM tools, change facilitators must be able to "see" the innovation within the entire context. Figure 3 shows some of the variables that can impact a system. Unique combinations of characteristics at each site will flavor the nature of interventions. For example, research shows that "the factors having the most influence . . . administration, faculty, district, and community -- were seen by researchers to have greater variance across all sites in the way and degree to which they influenced the change process" (Stiegelbauer, 1984, p. 18). Understanding of the site's particular variation will enhance the change facilitator's role. The School Ecology Survey (Hall & Griffin, 1982) and the Situational Factors Checklist (Stiegelbauer, Haddad, & Murphy, 1985) are two instruments developed during the RIP research studies which may help CFs "tune in" to their unique context.

The Process of Training

Just as individuals involved in a school level change have concerns about the innovation, change facilitators have concerns about their role. "The concerns a person has at any point in time relative to his role in facilitating school improvement will reflect the kinds of needs he has and will determine what kinds of assistance will be most helpful" (Rutherford, Hall, & Newlove, 1982, p. 55). Therefore, the process of training being recommended is partially based on the assumptions of concerns theory, discussed earlier in this paper.

Another consideration in structuring a training program for change facilitators is the research findings about adult learning theory. Like many other social science fields, adult learning research provides many specialized theories. However, Oja (1979) provides a comprehensive review and synthesis of the major literature in this field. Based on the review, and her own

FIGURE 3



CF CHARACTERISTICS

PRINCIPAL
2ND CF
CF TEAM
FLEXIBLE GROUP

PLAN OR STRUCTURE FOR CHANGE

CHANGE CHARACTERISTICS

SOURCE
SIZE AND COMPLEXITY
INNOVATION REQUIREMENTS
GOALS OF CHANGE
FIDELITY

UNIT CHARACTERISTICS

SIZE
ORGANIZATION
HISTORY/PERSONALITY OF GROUP
OTHER PRESSURES

history in staff development, she identifies some elements for consideration in structuring a training program for adults:

1. Recognize teachers' [and CFs] reasons for participating in various staff development activities in terms of their life age, and career cycle transitions.
2. Recognize the developmental stages of teachers [and CFs].
3. Respond flexibly and differentially to various stage perspectives.
4. Develop a working knowledge of the complexities of the unique context of each school.

These elements are similar to those already expressed in the assumptions about change. A training program for adults must give careful attention to such principles when structuring the delivery of the content.

Synthesis of five years of research by RIP and adult learning theory suggests a process for training consisting of interaction between two major elements: concepts and applications. The process recommends the presentation of CBAM concepts, a period of application, and a review, refinement, or extension of the concepts as feedback. This cycle is repeated over an extended period of time. As mentioned previously, it is important that all members of the CF team be trained together so that they may develop a common background and understanding.

Just as in teacher training, change facilitator training needs to be on-going with coaching and support along the way (Hord & Huling-Austin, in press; Joyce & Showers, 1982). Therefore, the process of training discussed here, is a developmental process, not a one-shot affair. A year-long training program, consisting of monthly or bi-monthly sessions, is optimal in that it allows participants time to reflect on and practice what they have learned. As the cycle of training continues, the CBAM concepts presented may become

more refined and situation specific, or participants may apply the general concepts in a variety of settings. Whether the concepts are applied to a broad or narrow situation, the cyclical nature of the training process, presentation, application, and feedback, remains constant.

As the cycle of training continues, applications often are utilized in an actual, on-going change process. As described by Stiegelbauer, Muscella, and Rutherford (1986), the change unit has unique characteristics, such as size and organization, which interact with the proposed change and the change facilitator. As the cycle of training continues, the CF may use applications that are most effective in a particular situation. While initial applications may be a trial and error, continued applications often involve adjustments necessitated by interactions among the change unit, the CF, and the innovation. As the CF works more intensely within the change unit, appropriate feedback may take on a very interactive format such as coaching, to deal with site-specific demands.

So, while the cycle of training remains stable, the concepts can be presented using various formats which may include workshops, individual instruction, and on-site coaching. Application of the CBAM concepts may be accomplished through paper and pencil assignments, interviews, and casual discussions. Feedback may also be completed using various methods. However, when selecting a strategy for implementation, information about the specific situation, the assumptions of concerns theory, and precepts from adult learning theory should interact. Any technique compatible with these three governing principles would be appropriate as part of a training process.

Summary

Based on five years of research in elementary and secondary schools examining the change process, this paper made recommendations about the

selection and training of educational leaders. These recommendations were grounded in the assumptions underlying the CBAM. Further, it was assumed that those engaged in training had school improvement as a primary goal for educational leaders.

Selection can be partially based on the "styles" of educational leaders. Certain styles seem to be more effective in facilitating school improvement than others. However, selection need not be limited to a single criterion. Rather, for most effective facilitation to occur, change facilitation teams should be in place. The creation and functioning of teams suggest the use of additional criteria for selection.

The very existence of a team concept should be considered during selection. Individuals determined to lead as "rugged individualists" probably would not function efficiently in a team of facilitators. Similarly, the roles to be fulfilled, first, second, and third CF, should be determined. Hall and Hord (1986) discuss the specific tasks necessary for completion by the different roles.

While style can serve as a guide in selecting educational leaders, the needs of the specific situation and the interactions among team roles must also be considered. If some of the roles are already functioning, selection for additional roles should seek to complement those already in operation for school improvement. Because people and situations are so diverse, there are no absolutes to be applied in selection. Rather, the recommendations in this paper may be a framework for use in the selection of educational leaders for school improvement.

It stands to reason that individuals who will be leading school improvement efforts should be trained in change facilitation processes. The Concerns Based Adoption Model (CBAM) offers diagnostic and prescriptive tools

that can be used in numerous situations. The CBAM is a tested and practical method which can enhance the effectiveness of trained facilitators by providing tools for data collection and a guide for action.

The process of training must include the entire CF team and extend over a sustained time period. Inclusion of all members of the CF team provides practice working together as well as reinforcement for the importance of all roles. By committing to training over a period of time, which includes applications and feedback, the CF team is "living" the process necessary for effective school improvement.

Final Thoughts

The recommendations for selection speak to both the preservice and inservice training of educational leaders. On the preservice level, persons interested in school leadership positions can be made aware of potential styles and their impact on school improvement. Also, the strengths of a change facilitation team can be explored. During inservice, emphasis may be placed on the definition of roles and the priority of functions necessary for school improvement.

The training recommendations, just as those related to selection, may apply to both the preservice and inservice levels. On the preservice level, the academic year makes modeling the process difficult. However, the cyclical process can easily be taught. Ideally, inservice training should model the cyclical training process discussed in this paper.

The content of the training, the CBAM, can be incorporated as a standard part of the preservice curriculum. General familiarity with CBAM and its underlying assumptions will allow persons entering the arena of school improvement to formulate a theoretical and practical framework for action.

Ongoing inservice training in the CBAM will provide opportunities for persons on a CF team to practice in specific situations and receive tailored feedback.

The suggestions presented in this paper are based on the assumption that those considering the ideas are committed to school improvement. That commitment will be reflected in the time and training specially allocated to topics relating to school improvement. It will also be reflected through the creation and support of change facilitation teams. As simplistic as it sounds, a basic assumption underlying the CBAM must apply to the selection and training of educational leaders for school improvement. That is, "Change is a process, not an event."

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Appendix A

The Concerns-Based Adoption Model

Diagnostic Components of the CBAM

The three diagnostic components of the model are the Stages of Concern (SoC), Levels of Use (LoU), and Innovation Configuration (IC). They can be used separately or together, depending on the type of data needed to assess a situation.

Stages of Concern About the Innovation (Hall, George, & Rutherford, 1977) is based on the developmental work of Francis Fuller (1969). This dimension describes seven categories of concerns individuals experience with varying intensities as they undergo the change process. These range from early concerns about "self," to concerns about "task," and finally to concerns about "impact." Reliable and valid procedures have been developed for measuring the seven Stages of Concern. For example, the Stages of Concern Questionnaire (SoCQ) consists of 35 items which the respondents rate on a Likert scale. Five items represent each of the seven Stages of Concern. Estimates of internal reliability range from .65 to .86. Perhaps the most useful interpretations of this data are derived from analysis of the profiles that are made from displaying the percentile values, converted from raw scores, for each scale on a grid. A complete explanation of various analyses techniques is available through a variety of publications (Newlove & Hall, 1976; Hall, George, & Rutherford, 1977; Parker & Griffin, 1979).

Levels of Use (Hall, Loucks, Rutherford, & Newlove, 1975) describes how performance changes as the teacher becomes more familiar with an innovation and more skillful at using it. Eight distinct Levels of Use (LoU) have been identified. Individuals first "orient" themselves to the innovation.

Usually, first signs of use are found at the "Mechanical" level where planning is short-term and organization and coordination of the innovation are disjointed. As experience increases, innovation users move to the "Routine" level and eventually may reach various levels where changes in the innovation begin to occur. A casual interview procedure may be used to informally assess LoU. A more systematic procedure may be conducted by trained and certified LoU interviewers (Loucks, Newlove, & Hall, 1976).

Innovation Configuration (Hall & Loucks, 1978) describes the various forms of an innovation that result when users "adapt" it for their particular situations. With this concept, the major operational components of an innovation are identified along with possible variations of each component. These descriptions are summarized on an Innovation Configuration (IC) Checklist (Heck, Stiegelbauer, Hall, & Loucks, 1981) which is used to identify the particular configuration currently in use.

Prescriptive Dimension of the CBAM

Intervention Taxonomy (Hall & Hord, 1984b; Hall, Zigarmi, & Hord, 1979) provides a structure for the change facilitator to plan a change effort. It is characterized by five planned or sponsored levels: Policy, Game Plan, Strategy, Tactic, and Incident. The levels are distinguished generally by their size, magnitude or scope, and the extent of their impact. Another level which results from unplanned effects and actions are known as "mushrooms."

Planning of change efforts is crucial to their success. "The plan, departure from it, and the restructuring of the plan are the rubric which direct the actions of the change facilitator during the implementation process" (Stiegelbauer, Muscella, & Rutherford, 1986, p. 26). According to PTI data (Hall et al., 1983) the likelihood of successful implementation is increased when four particular Game Plan Components (GPCs) are in operation.

These GPCs are: developing supportive organizational arrangements, training, providing consultation and reinforcement, and monitoring and evaluating. The nature of the components and examples from the research base are discussed in detail by Stiegelbauer, Muscella, and Rutherford (1986).

DISCUSSANT REMARKS

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Betty Ward, President
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As I read the papers I was struck with two things. One of which is how much Levels of Use, Stages of Concern, and aspects of the research that's been done by this group are part of our culture. You just don't think of doing anything new without these things popping into your head now. It is a real compliment to them. In the fifteen years they've been working in the area, they've shown us how to get an innovation used by the fact that they're so much a part of the whole culture of change and improvement in education. You are to be complimented on that.

I, myself, have spent the last two or three years working on school improvement activities with school improvement teams and I have questions about things that are in the papers which, unfortunately you, the audience, probably haven't heard about yet. However, I'm going to raise them because they are the things I want to know more about. This is your next series of whatevers, you guys.

In terms of Shirley's paper in particular, although it's an issue across all of them I think, one of the things I find useful to keep in my mind when I'm thinking of myself as a facilitator is Michael Fullan's support and pressure balance issue. In Shirley's paper, in terms of institutionalization, I would like to talk with her a lot more about how, when you really get this thing institutionalized, you keep the pressure going so that you get the refinement and extension, so that it just doesn't become a routine that looses all of its zip and zing. I know she has a lot of answers but it is one of the topics to which I'd like a whole session devoted.

In Suzie's paper, I'd like a whole session to explore a comment she makes that adaptive facilitation ends up being what most people have to do to keep things going at a high level of implementation and movement toward institutionalization. That, to me, sounds like it's going to be a very complicated, very affective, as well as objective, kind of action on the part of people. I want to know how to train people to do that or else how to do it myself. That's a whole area of interest on which we could spend a lot of time.

In Sheila's paper, she does review the kinds of instructional leaders and managers that they found in their studies of the principals--to do a quickie, responder, manager, and initiator. My whole question is, and she doesn't really come out and say this in the paper, is one a better facilitator than another? If I've got one and I'm stuck with him (I've got some of those responders this year) what do I do? What I did was made the teachers into the initiator. That's another whole big session.

On the final one, with the teachers' contribution to school improvement, I'm really intrigued with the whole issue of how can we be sure the implementation and the improvement is happening when you've got such good fakers involved? The whole issue of how does one really get inside the school where you're working to make sure that you've just not created a lot of activity rather than what you really hoped to have generated, even though that activity gives people often a high and a feeling of real importance that

something is happening. I sometimes do just what Gene and his crew have done and set back and say wait a minute! Are they just having fun?

Those are the areas that I, myself, would like to spend days on. If you were still going on, I'd say let's start a whole new series of research and take a look at there areas.

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I hope you will get a chance to read these papers because the brief presentation doesn't do them full justice. I read them with great interest, even excitement, because I think it is intellectually stimulating to sample the knowledge this team has developed. To me it is a good example of programmatic research: a group of scholars who hang in there over a period of time to produce a growing body of information. It is interesting that the Department of Education, and before that the US Office of Education, has many times called for programmatic research, and it is sad, to me, that an organization with such a fine programmatic research emphasis is no more. I am especially pleased to have the chance to participate in this session because, while this may not exactly be their swan song, it certainly is a turning point for them. That is a shame.

I read the papers with some embarrassment and chagrin also, because of my own experience in trying to bring about change in institutions and what the papers told me about how badly I did it. For example, as associate superintendent in a medium-sized school district, I thought my role was primarily to work with committees to prepare position papers that described beautiful, idealistic changes we wanted to bring about in the schools and then to get the board of education to approve those lovely documents. That was my chief activity, aside from making speeches about how important these changes were that needed to be made. Very seldom did the changes get implemented as well as I hoped they would.

Currently, we're changing technology in the office where I am editor of Educational Leadership. All of our editors are learning how to edit on-line using computers. Right now they're supposed to be practicing a new word processing program, but some of them are finding other things that keep them busy. The new way is hard and it's tempting to use familiar routines. I am worried! I have to get back home and start rethinking my game plan for this enterprise.

What do we have here? We have a body of authoritative knowledge about how schools have successfully managed a well defined change. (I choose those words fairly carefully.) It is in the tradition of the effective schools and the effective teaching research. It says, "Let's look at some examples that have worked" and "What about these things made them work?" That's helpful.

We are brought face-to-face in the last paper with the teachers' perspective on change and that, to me, is especially enlightening. Now, everybody in this room probably suspected some of what the paper documents, but we didn't want to hear it. We haven't paid enough attention to it most of the time. That paper offers specific advice for how to pay attention to it. Another paper has very constructive suggestions for how to train leaders. Another gives us a practical--fairly practical--systematic way of operationally defining the fuzzy concept of institutionalization, which I think is very impressive. The paper explains clearly what it would mean if an innovation were implemented, what it would mean if it were institutionalized. As it mentions in the paper (it isn't my idea) applying an operational definition

means that evaluation can be so much sounder because many times in the past schools have tried to evaluate innovations that weren't in fact implemented and certainly not institutionalized. The evaluation report said it didn't work but in fact it wasn't even there.

As always, the papers also raise many questions as well. If there were another two hour session, the presenters could probably answer many of these questions--or if they couldn't, they could tell how they would hope to answer them in the years ahead.

My first question is about the CBAM instruments. Who administered them in these studies? Who can administer them and under what circumstances? Who should administer them? In most cases I assume that the research reported here is based on information generated by people well trained in use of these tools, most of them outsiders to the change efforts they are studying. How does that effect the situation, if let's say, a school district wants to train people to use these tools? How much time and effort would be required? Does the typical school district have the resources to be able to generate all these data?

Secondly, there is an implication throughout the papers that use of these tools will, in fact, result in far more successful implementation and institutionalization of programs. I don't recall finding much evidence in the papers themselves that that is the case. Let me offer an analogy. A year or so ago, I got an article from a man who cited a lot of recent research on the English language that he said sheds light on the teaching of spelling. He showed that spelling patterns make more sense than they often seem to if you pay attention to the underlying root words (you can remember that the second vowel in "recitation" is an i by thinking of "recite"). I was impressed, so I asked some reviewers to read the article. One reviewer asked, "Is there any evidence that these new insights, when actually used in a classroom with third graders, do produce kids who can spell better?" When I asked the author that he said, "Well, not very much, no." But that's the test, isn't it?

I think of the work of people like Tom Good and Doug Grows who, on the basis of classroom observations, developed a model for how to teach mathematics, then trained some teachers who hadn't been using the techniques and found that they could in fact boost math scores. That's the kind of evidence I am looking for. I'd like to be able to say, "Yes, we can go out and train some strangers to use these tools, people who don't ordinarily make successful changes in schools. Then we stay away, and they bring about successful change by using these tools." I don't find any evidence in the papers that that has yet been done.

I also have a question about teachers. The paper says there are two quite different approaches a leader can employ. One is to use the CBAM model: teachers will implement the program because they have the resources to do it, they know exactly what they are supposed to do and so forth. The other strategy is to encourage teacher-initiated change. I'd like to know about the relationship between these two approaches. Does the CBAM approach still apply when changes are teacher-initiated, or isn't it needed under those circumstances? I'm sure these are the sorts of questions the people on the panel would love to try to answer as well.

The leader training paper raised some questions, too. It implies that if administrators want principals who are initiators, they must select the right people. I'm very interested in whether leaders can be trained as well. Can we teach principals how to bring about change? There is a very weak statement in the paper that future principals should "be made aware of" these findings. I'm wondering just how useful it is only to make them "aware of" the knowledge that some types of people are better leaders than others.

Team training is another interesting idea. One of the papers suggests that school systems train teams of change facilitators rather than expecting one individual to be the superleader. Again, is this an inference, or is there evidence--not that in some schools teams distribute leadership functions successfully--but that people can be trained to provide team leadership? Is it just an assumption that this would be a good idea, or do the authors know, in fact, that it's true?

One last point: I mentioned earlier that these researchers have produced a body of knowledge about how people have successfully managed the implementation of well-structured changes. A lot of the things I would like to see done in education are not at all well structured; they're just what seems like a good idea. I don't know what their implications are. If you asked me to make a nice Innovation Configuration checklist, I wouldn't be able to do it. The teachers involved would have to work it out with me if we agreed that it was worth doing. It seems to me that some of the most worthwhile changes are like that: we can't pin down precisely what the results ought to look like three months from now; Those who try it would have to learn together as they went.

I make that point just to be disputatious, of course. The fact is that even when we don't know exactly how something will go, we can sit down together and work out what we think the model might look like. I confess that I'd rather do that than just blunder into it although, in fact, throughout most of my career, I've mostly just blundered.